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## Noh, the Traditional Theatre of Japan

Shigeo Kishibe

Noh is one of the traditional performing arts of Japan. For an understanding of Noh, one has to know the fact that Japan has preserved quite a number of its ancient performing arts, of which the four major ones are: Gagaku, which originated in the period beginning with the eighth century; Noh, founded in the fifteenth century in the early feudal age; and Kabuki and Bunraku established in the seventeenth century of the later feudal age. Noh can be distinguished from Kabuki and Bunraku both in its style and aesthetic because of the difference in the social background. The former was sponsored by the upper classes of the feudal age, the Samurai, while the latter two were created by the lower classes of the later feudal age, the merchants. In addition, Noh is an art created by the Japanese under the least possible influence from the Asian continent, while Gagaku is an art produced under strong influences from the Asian continent, and even from India. In other words, one might say that Noh is the most national in character from among the performing arts of Japan.

To identify the specific nature of Noh, one has to begin with the specific style of the stage. The stage consists of a main stage, 570 cm square, a side stage for the chorus, a rear stage for instrumentalists, and a long covered passage way which serves as part of the stage. The entire stage is elevated 136 cm from the audience level and is viewed from two sides. The main stage is covered with a roof which is supported by four thick pillars standing on the four corners of the main stage. The stage is a marvel of architecture. No curtain or set is provided, except for a small curtain at the entrance of the passage way and simple properties representing a house, a tomb, a boat, a wagon, etc., all of which are constructed in a simple and symbolic shape. The audience must have a lively imagination in order to appreciate this form. The stage and audience are involved in a building. The voice and instrument can sound only in a hall with the best of effects. Both the visual and sound effects of Noh are easily lost in a modern theatre or concert hall where a replica of the Noh stage is built.

Noh as theatre is highly prized because of the literary merit of the dramas staged. As in the case of Shakespeare's plays, the texts were written by its two founders, Kan-ami (1333-1384) and his son Ze-ami (1363-1443). They were not only actors but also dramatists. Their great dramas are regarded as one of the highlights of the history of Japanese literature. The writers were well versed in Japanese and Chinese literature and adapted great Japanese novels of the Heian period (from the ninth to the twelfth century) like *The Tales of Genji* and *The Tales of Heike*, and Chinese poems of the T'sang dynasty (from the seventh to the ninth century), like those of Li Po. This drama can be classified into two major categories: fantasy

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and history plays. But its representation in theatre is more or less through fantasy in both the categories. It is necessary to understand the fact that the superiority of drama in Noh is in contrast to the inferior level of plays of those theatres where the text is less important and less excellent than other elements of the performing arts.

There are no actresses performing in Noh. Actors are classified into three major classes; Shite, the principal actor, one for each drama; Waki, the second actor; and Kyogen, the comic relief actor. Actors of each class form a school and they never switch from one class or school to another. The Shite is the only major actor and he is the central figure; he acts, dances and sings. Dialogue and monologue are rendered in a specific style of intonation. Most of the acting is formalized and this attitude is modified into dance.

Noh has one or two acts. The principal actor in a two-act drama assumes a different role for each act. For instance, the actor may be a young woman in the first act and the ghost of a warrior in the second act. He goes backstage after the first act to change his costume and mask, and the Kyogen actor or actors continue in the meanwhile to perform on the stage. Then he returns.

The music of Noh consists of solo singing by actors and chorus in unison, and an ensemble of four instruments. Although the construction of the drama varies according to the plot, it is based upon a stereotyped form, which consists of sections placed in a certain order. Each section of singing consists of stereotyped melodic units. The melodic line is one that mainly conveys the words and their meaning to the audience, but is at times tempered with melismatic movement. The dance section is inserted in either act or at times in both acts.

One has to know the tone system of the melody; it cannot be understood by the usual idea of scale which bases itself on an octave, divided into several intervals. The tone system of Noh singing is based on three major nuclear tones, the interval of which is the fourth between the neighbouring two tones. A noteworthy feature of this music is that the interval between the high nuclear tone and the low nuclear tone is the minor seventh and these two act as the final tone of melody. There are two more nuclear tones of less importance, the fifth above the high nuclear tone and the fifth or fourth below the low nuclear tone. The intervals between those five nuclear tones are divided into smaller intervals. The melody based on this tone system often represents tetrachordic and pentachordic features. Beside the singing using this tone system, which is called Yowa-gin (soft singing), another style of singing called Tsuyo-gin (strong singing) gives a more specific impression of Noh singing. In the strong singing only two nuclear tones (the interval of which is the minor third and divided into two intervals) are used. The whole range of the tone system covers only one octave and a minor second. As Dr. Curt Sachs has put it, the continuous use of one of the two nuclear tones gives those unacquainted with the form an impression of one tone melody.





The instrumental ensemble of the Noh, while using only four instruments at the most, still gives a very strong impression. This is because of the specific style of the ensemble. The refinement of the timber on each instrument is emphasized. The structure of rhythm, especially free rhythm, is quite sophisticated in theory, but the refined style of elasticity in the actual performance is more important. The call uttered by the drummers, which gives foreigners a strange impression, is not only necessary in order to keep the rhythmic structure but is also effective in creating an adequate atmosphere for each scene.

The transverse bamboo flute, Noh-kan, with seven finger holes, is the only melodic instrument other than the voice, but its melody is on quite a different line from that of the singing. The smaller drum, Ko-tsuzumi, is an hour-glass-shaped drum with two horse hide heads, which are fitted to both ends of the body by flaxen braids. The front skin face is struck with the fingers of the right hand. The pitch and strength on the drum, although an indefinite one, is regulated by the tension of the hand ropes with the left hand which actually holds the drum on the right shoulder. The player controls delicately the timber by putting small and thin paper strips on the back skin face of the drum. The larger drum, O-tsuzumi, is a slightly larger hour-glass drum with two horse hide heads. The front head is struck with the middle finger of the right hand, while the left hand holds the drum on the left knee. The skin head must be pre-heated over a charcoal fire for an hour before every performance in order to give the characteristic sharp, dry sound which serves as a good contrast to the soft sound on the smaller drum. Another drum, Taiko, is a flat barrel drum with two cow hide heads. It is placed on a stand on the floor and played with two wooden sticks. The quality of sound of this drum depends upon the skill of lashing the two heads to the body. This procedure must be repeated by the player for every performance.

One can find the highlight of the Noh music in the most sophisticated combination of the fitted rhythm and free rhythm between instruments, and between singing and instruments.

In short, the basic, overall form of Noh music is highly conventionalized. It can be adapted to the acting and dancing. Nevertheless, within this framework a great deal of elasticity exists. The all-inclusive aesthetic of Noh was expressed by the founder, Zeami, as *Yugen* (beauty, elegance and nobility) and *Hana* (flower or charm). Noh can be regarded as a stage art which achieves one of the deepest and highest expressions possible in the theatre and with the most economical use of materials.

Foreigners would have a better understanding of Noh by comparing it to other theatres of the world. As mentioned above, Noh, as a performing art, offers a synthesis, a well-balanced combination of theatre, drama, music and dance. Despite the objections that are likely to be raised against the following draft definitions of the eight major performing arts of the world, I would like to show a table which defines the order of importance of those four elements. Numbers 1—4 indicate the order in a descending scale.







|                      | 1       | 2       | 3       | 4       |
|----------------------|---------|---------|---------|---------|
| Italian opera        | music   | drama   | theatre | dance   |
| American musical     | music   | dance   | drama   | theatre |
| Indian Kathakali     | dance   | theatre | drama   | music   |
| Javanese Wayang Wong | dance   | music   | theatre | drama   |
| Chinese opera        | theatre | music   | drama   | dance   |
| Japanese Noh         | theatre | drama   | dance   | music   |
| Japanese Kabuki      | theatre | drama   | dance   | music   |
| Japanese Bunraku     | drama   | music   | theatre | dance   |

Despite the indefinite views in this ordering, no one can be against the idea that in the Italian opera it is music that is predominant while dance is subordinate; the modern American musical aims more at a synthesis of dance and music; the Kathakali dance drama of South India presents a balanced combination of dance and theatre while the music is less sophisticated; the Javanese Wayang Wong, which also shows a good synthesis of dance and theatre, is accompanied by the most sophisticated Gamelan orchestra; the Pekinese opera is closest to the Japanese Noh as a highly synthesized performing art in which music and theatre are the most important elements but where dance is absorbed into the theatre or acting to a very great extent. Kabuki, in which dancing scenes are often inserted as a kind of episode, has to be essentially regarded as theatre. The doll theatre Bunraku is noteworthy for its music. Dialogue, narration and singing are performed by a narrator (or singer) who is accompanied by a player of a string instrument (Shamisen), while dolls, each of which is played by three doll players, are performed silent.

In the task of ordering, the biggest difficulty is encountered in the case of Noh, because none of the four elements is really predominant. ☐ ☐ ☐

## Amir Khusrav

Jaideva Singh

Amir Khusrav was a man of many parts. He was a great scholar, warrior, diplomat and statesman, poet and musician; and there was hardly anyone to equal him in the mediaeval period of Indian history. We may consider his life and work under four main heads: his parentage and education; his qualities as a warrior and statesman; his literary and musical compositions; his invention of new instruments, *ragas* and *talas*.

### Parentage and Education

The Turks were famous as warriors. They had spread throughout Central Asia in battalions of ten, hundred and thousand. Those who formed members of the battalion of a thousand were known as Hazara. Amir Saifuddin Mahmood, father of Khusrav, belonged to the Hazara tribe.

When Chingiz Khan started the invasion of the countries in Central Asia, many of the tribes of the Turks fled to India. Amir Saifuddin Mahmood, together with some men of his tribe, was one of those who settled in this country. Shamsuddin Iltutmish was at that time the ruler of northern India. Amir Saifuddin Mahmood and his followers took service in the Emperor's army and settled in Patiyali, a town in the Etah district of U. P. Imad-ul-Mulk, a noble of the Emperor, gave his daughter in marriage to Amir Saifuddin Mahmood and they had three sons: Izzuddin Ali Shah, Abul Hasan Yaminuddin Khusrav, and Husamuddin Qutlugh.

Abul Hasan Yaminuddin Khusrav, who later came to be known as Amir Khusrav, was born in A.D. 1253 (651 Hijri). It is said that Amir Saifuddin carried this new-born child to a saint for his blessings. The saint while pronouncing his blessings said to the father, "You have brought one who will be two steps ahead of Khaqani." (Khaqani was a great celebrity of earlier times.)

Khusrav's father died when the boy was only eight. The family left Patiyali and went to live with Imad-ul-Mulk. Khusrav schooled with a very learned scholar of the time, Maulana Asaduddin. He studied Persian and even began to compose poems in the language. His teacher, in order to test his ability, took him to a great scholar named Khwaja Izzuddin. The Khwaja was struck by the boy's ingenuity and prophesied that he would rise to be a great poet. At his suggestion, Khusrav adopted the pen-name of Sultani.

When Khusrav was twenty years old, his grand-father Imad-ul-Mulk died. By that time Khusrav had already won fame as a great poet and nobles and princes were anxious to extend their patronage to him.



## Warrior and Statesman

Amir Khusrav witnessed the rise and fall of eleven rulers and served eight: Alauddin Kishti Khan (Mallik Chhajju); Sultan Balban's eldest son, Prince Muhammad Qaan, the ruler of Multan; Bughara Khan, the youngest son of Sultan Balban; Khan Amir Ali, ruler of Avadh; Kaiqubad, son of Bughara Khan; Jalaluddin Khilji; Alauddin Khilji and Ghiyasuddin Tughlaq. Thus he acquired a wide experience of political conditions in the country and came to be regarded as a sound statesman.

Amir Khusrav also took part in the war against the Mongols and served under Prince Muhammad Qaan, the ruler of Multan. The prince fell fighting and Khusrav was taken prisoner by the Mongols but he managed to escape to Delhi.

Alauddin Khilji sent him with Malik Kafur to take part in the campaign against the south. They returned to Delhi with a large booty and brought with them Gopal Nayak, the great musician of South India.

## Amir Khusrav's Literary Works

Khusrav was a prolific writer. According to Dr. Mohammad Wahid Mirza, Khusrav had to his name twenty-one independent works and twenty of them are still available. Khusrav was a great poet. His main compositions were in Persian and his reputation as a great Persian poet even spread to distant Iran. In India, he was acknowledged as the greatest Persian poet of his time. He was known as *Tootiye-i-Hind* (the parrot of India). Amir Khusrav also composed a few poems in Braja-bhasha and Hindavi, the fore-runner of modern Hindi.

Khusrav's famous Persian works include:

1. *Qiran-us-Sadain* (the conjunction of two auspicious stars), commemorating the reconciliation between Kaiqubad and his father, Bughra Khan. According to Khusrav, this was a *Masnavi* containing 3,944 verses and was completed within six months.
2. *Panj-Ganj*, dedicated to Alauddin Khilji and containing a panegyric of the Emperor.
3. *Shiri-Khusrav*.
4. *A'ina-e-Sikandari*.
5. *Laila-Majnun*.
6. *Hasht Bahisht*. (The total number of verses in *Panj Ganj* and *Hasht Bahisht* amounts to eighteen thousand and these were finished in a short period of two years.)
7. *Khazain-ul-Futuh*, describing the campaigns and conquests of Alauddin Khilji.
8. *Deval Rani-Khizra Khan*, a *Masnavi* based on the romance of Khizra Khan, the son of Alauddin Khilji and Deval Devi, the daughter of Rai Karnadeva II of Gujarat. She was captured by Malik Kafur in Devagiri where Rai Karnadeva had taken refuge under Ramachandradeva and was sent to Delhi by Alp Khan, the Governor of Gujarat.

9. *Baqiatun-Naqia*, a *Diwan* or collection of Khusrav's independent verses.
10. *Nuh Siphir*, a *Masnavi* describing the reign of Mubarak Shah Khilji, the last Khilji Emperor.

Khusrav was not only a great poet; he also commanded a charming prose style of which *Ejaz-e-Khusravi*, a voluminous work written during Alauddin's reign, is an excellent example. Another prose work of his, *Afzal-ul-Fawaed*, contains the sayings and teachings of Hazrat Nizamuddin Auliya.

## Amir Khusrav's Poetic Compositions

Amir Khusrav's impromptu compositions are famous. He also wrote songs which were set to folk tunes. The following examples indicate the style of his compositions:

### Doha (Couplet)

Hazrat Nizamuddin Auliya, the spiritual preceptor of Amir Khusrav, was a great saint. Khusrav was not present in Delhi at the time of his death in 1325. He was with Ghiyasuddin Tughluq in Lakhnauti (Bengal). When he returned and learned of the death of his master, he went to his grave and gave expression to his grief thus:

*Gorī sove sej par, mukh par dāre kes*  
*Chal Khusrav ghar āpane, rain bhai chahun des*

(The fair one is lying on the couch with the black tresses scattered over the face. O Khusrav, go home, for the whole world is now plunged in darkness.)

Khusrav said that he would not survive his master long. He passed away after a few months and was buried at the foot of his master's grave.

### Hindi Songs

Khusrav was proud of his mastery of the Hindavi (Hindi) language. He wrote,

*Turk-e-Hindostaniyam man, dar Hindavi goem jawab.*  
*Shakkar-e-Misri na dāram kaz Arab goem sukhan.*

(I am an Indian Turk. So I make replies in Hindavi. I have no Egyptian sugar that I may talk to the Arabs.)

He repeats the sentiment:

*Chūn man Tūti-e-Hindam ar rāst pursī*  
*Baman Hindavi purast naghz goem.*

(If you ask me truly, I am the Parrot of India. I am full of Hindavi, I pour out the essence of my feelings in it.)

Amir Khusrav also composed many *Paheliyan* (riddles or conundrums), some of these were in Hindi and some were in mixed Persian and Hindi.







Amir Khusrav's two favourite pupils, Samai and Niyaz, developed this mode of singing after him. Later on, it was not just mystic songs but also romantic songs that began to be sung in the *Qawwali* mode.

#### Invention of New Instruments, *ragas* and *talas*

It is generally believed that Khusrav invented the sitar. But the sitar is only a development of the Tritantri Veena of India. There is no proof anywhere that it was invented by Amir Khusrav. Dr. Mohammad Wahid Mirza who devoted a life-time to the study of the works of Khusrav says in his *Life and Works of Amir Khusrav*, "Unfortunately I have been unable to trace the name 'Sitar' anywhere in Khusrav's writings, although there are pages full of the description of the various instruments in his time". (Page 239).

Khusrav is also said to be the inventor of the tabla. Nowhere in his writings does he mention that he was the inventor of this instrument. The word *tabla* is derived from the Arabic word *tabl* which is a generic word for all membranophonic instruments. Any even surface is known as *tabl*. The English word *table* is cognate to the word *tabl*. The idea of an even surface is to be found in the English word *tableland*. The English word *table* is derived from Latin *tabula*, meaning a board, a flat portion of some object; the root is *ta*, meaning to extend, and *bula* is the suffix.

Perhaps some soft folk drum began to be used as an accompaniment to softer melodies like the *khayal* and *thumri* and acquired the dignified name of *tabla* from the Muslim rulers or it may have been made in imitation of an Iranian *tabl*. The story current among musicians that Khusrav cut the *mridang* into two halves and it thus became the tabla has no basis, for a *mridang* cut into two will not acquire the shape of a tabla.

But Amir Khusrav certainly did invent a few new *talas*. There are some musicians who believe that Khusrav invented the *dholak*. This does not appear to be correct. *Sangitasara* specifically says that the ancient drum *pataha* was popularly known as *dhola* (*Sangita-Sara*, Vol. II, Page 47). The *dholak* was a varied form of the *dhola*. The word *dhola* is a corrupt form of the Persian word *duhul*, meaning a drum.

Amir Khusrav did invent certain beautiful mnemonic syllables (*Pat-aksaras*) for this instrument. That may be the reason why his name is associated with the invention of this instrument.

#### New *raga*-s and *tala*-s

Faqirullah, who was the General of Aurangzeb, was deeply interested in Indian music. He wrote a book named *Raga-darpana* based on Raja Man Singh's *Manakutuhala*. In that book, Faqirullah listed the *ragas* invented by Amir Khusrav. There are references to these *ragas* in Khusrav's *Qiran-us-Sadain*.

#### Names of the *ragas* invented by Khusrav

1. Mobar
2. Zilaf
3. Usshaq
4. Farodast
5. Aiman
6. Ghanam
7. Sazagiri
8. Farghana
9. Saraparda

#### *Ragas* combined by him to create new *ragas*

Todi + a Persian melody named Panjgah Mair.  
Pataraga + Persian Shahnaz.  
Sarang + Basant + Persian melody Nava.  
Kanada + Gauri + Purbi + a Persian Ahang.  
(He also invented a *tala* named Farodast)  
Hindol + Persian Nairez.  
(It is intriguing to find that the Persian word *Aiman* means the same thing as the Sanskrit word *Kalyana*).  
A variation of the Indian *raga* Purbi.  
Purbi + Vibhasa + Gaur + Gunkali + a Persian Ahanga.  
Gunkali + Gaur.  
Gaud + Bilawal + Sarang + Persian Rast.

#### *Tarana*

This was entirely an invention of Khusrav. *Tarana* is a Persian word meaning a song. *Tillana* is a corrupt form of this word. True, Khusrav had before him the example of *Nirgit* songs using *susk-aksaras* (meaningless words) and *pat-aksaras* (mnemonic syllables of the *mridang*). Such songs were in vogue at least from the time of Bharat. But generally speaking, the *Nirgit* used hard consonants. Khusrav introduced two innovations in this form of vocal music. Firstly, he introduced mostly Persian words with soft consonants. Secondly, he so arranged these words that they bore some sense. He also introduced a few Hindi words to complete the sense. An example of the words used by him together with their meanings follows:

|                              |  |
|------------------------------|--|
| <i>Dāni</i>                  | : You know; thou knowest (Persian).                                  |
| <i>Yālā</i>                  | : Freedom (Persian).   |
| <i>Yālālā</i>                | : A short form of <i>Yā Allāh</i> , <i>Yā Allāh</i> meaning "O God!" |
| <i>Yalali</i>                | : A short form of <i>Yā Allāh</i> — <i>Yā Alī</i> .                  |
| <i>Tantanān</i>              | : Expression of anger in Hindi.                                      |
| <i>Derena</i>                | : <i>Darīnā</i> , a Persian word, meaning 'old'.                     |
| <i>Nādir</i>                 | : A Persian word meaning 'unique'.                                   |
| <i>Diyā</i>                  | : It means 'gave' in Hindi.  |
| <i>Tomna</i> or <i>Tumna</i> | : It means 'you' in Hindi.   |

It was only Khusrav's genius that could arrange these words in such a way as to yield some meaning. Composers after him could not succeed in doing so, and the *tarana* became as meaningless as the ancient *Nirgit*.

#### *Talas*

A few *talas* are attributed to Amir Khusrav, three of which were definitely invented by him. These are Usul-e-fakhta, Chapak and Farodast. Usul-e-fakhta means "on the basis of *fakhta*". (The word *Usul* means principle, rule, basis). 'Fakhta' is the word for *dove*. This bird coos in a certain measure. Khusrav marked its cooing very carefully and corresponding to the measure of its cooing invented this *tala*. That is why he named it Usul-e-fakhta. Unfortunately, musicians who were ignorant of the principle on the basis of which this *tala* was invented dropped the *U* of the Usul-e-fakhta, and the *tala* came to



be known as Sulfakhta. Some even drop the word *fakhta* and call it just *Sul-tala*. This *tala* has ten *matras*. It has five divisions, each division having two *matras*. The mnemonic syllables of the *tala* are:

Sūla *tala*      dhā dhā X din tā X kit dhā X tīt kat X gadi gan  
                  \*      X 0      X 2      X 3      X 0

OR

dhin dhin X tā tirkīt X dhin dhin X dhāge tirkīt X tī nā  
                  \*      X 0      X 2      X 3      X 0

(The sign \* indicates *Sam*, 0 indicates *Khali*, the figures 2 and 3 indicate *Tali*).

Chapak *tala*

It has practically gone out of vogue. It was a *tala* of 11 *matras*.

Farodast *tala*

This is a *tala* of 14 *matras*. It has seven divisions, each division having two *matras*. Its structure is as follows:

dhin dhin X dhāge tirkīt X tū nā X kat tā X dhin kdhā X tirkīt dhin X kdhā tirkīt X  
                  \*      X 0      X 2      X 0      X 3      X 4      X 5      X

The *Sam* is on the first beat. *Khali* on the third and seventh beats and *Tali* on the fifth, ninth, eleventh and thirteenth beats.

Two other *talas* were either invented or amended by him. They are *Qawwali* and *Pashto*. Their structure is as follows:

Qawwali *Tala*      dhā dhin dhā dhā X tin tin dhā dhā  
                  \*      X 2

It is a *tala* of eight *matras*. It has two divisions, each division having four *matras*. The *Sam* is on the first beat, and the second *Tali* is on the fifth beat.

Pashto *tala*      tin s nak X dhin s X dhā ge  
                  \*      X 2      X 3

It is a *tala* of seven *matras*. It has three divisions. The first division has three *matras*, the second and third divisions have two *matras* each. The *Sam* is on the first beat, and the *Tali* on the fourth and sixth beats.

Amir Khusrav was a versatile genius. He was primarily a poet, a mystic and a musician. In the mediaeval period, he towered head and shoulders above all the Persian poets. He was proud of being an Indian. He blended Hindostani and Persian melodies and gave to Indian music a number of new *ragas*. His contribution in the field of *tala* is considerable.

Khusrav held Indian music in high esteem. This is what he says about Indian music in *Nuh Sipih*: "Indian Music, the fire that burns heart and soul, is superior to the music of any other country. Foreigners, even after a stay of thirty or forty years in India, cannot play a single Indian tune correctly. Indian Music charms not only men but also beasts. Deer have been hypnotised and hunted simply by music".

# MUSICAL SCALES

## An Experimental Study of *Sruti*-s

### RESEARCH REPORT - I

B. C. Deva

Assisted by S. C. Bansal, Sangeet Natak Akademi, New Delhi.

(The present report is on two *preliminary* experiments conducted in the Acoustics Laboratory of the Akademi in 1973-74.

Our thanks are due to Dr. M. Pancholy, Dr. A. F. Chhapgar and Sri Satish Kumar, Acoustics Department, National Physical Laboratory, New Delhi for assisting us in the frequency analysis and to Sri Gurubaksh Singh and Sri T. R. Subramaniam for participating in the experiment.)

### Purpose:

There have been many theories—ranging from the physical to the metaphysical—of the *sruti* in Indian music.

It is not our purpose here to examine and evaluate any or all of these. But we have made a deliberate choice of two concepts put forward and experimented on. These are:

- an arithmetical series worked out by Sri Gurubaksh Singh of New Delhi and tuned by him on a harmonium;
- an arithmetical series worked out by Sri S. Ramanathan of Tiruchirappalli, who has constructed a *sruti-veena* wherein a set of strings can be tuned to any desired intervals.

These two will be called Experiment I and Experiment II hereafter.

The intention here is not to prove or disprove any theory. Neither is it to establish the validity of any of these as equivalent to the ancient Indian theory/theories. Indeed, it will be evident that there can be many sets of series of intervals which can logically fit into a scale of 22 intervals in an octave. The experiments were conducted to examine whether the 22 *sruti*-s as tuned by the subjects *did in fact* tally with their calculations.

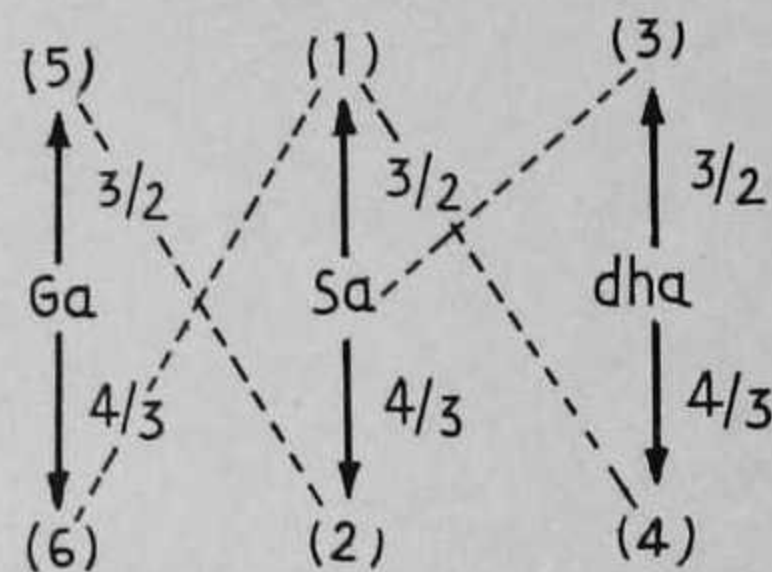
### EXPERIMENT - I

Gurubaksh Singh published a series of intervals giving the ratios of 22 *sruti*-s (*Sangeet Kala Vihar*, July, 1967).



The calculations proceed thus:

There are three centres of departure: *Sa*(1), *Ga*(5/4) and *dha*(8/5); the last is an inversion of *Ga*(5/4). Each of these generates two cycles: one of fifth (3/2) and one of fourth (4/3)—*shadja panchama* and *shadja madhyama bhava*. In the following chart the solid lines show the progressions and the broken lines connect the relevant series.



As the series (1) and (4) are extended there comes a stage when certain ratios become *almost* identical between the two. So is the case with series (2) and (5). As for series (3), it gives at one stage a note *very near* to *Sa* and hence further progressions are stopped; similarly with the series (6) which reaches 'near' *Pa*.

The ratios, *sruti* numbers and frequencies of tones with *Sa* = 240 are shown in Table I. 1.

They are brought *in seriatum* in Table I. 2.

## Harmonium

The tuning of the harmonium is done as follows: A "double-reed" instrument is used, with a pair of reeds for *each* key. There being 12 keys to an octave, 24 reeds are available, distributed thus:

|    | Key                | Reed 1<br>( <i>Sruti</i> No.) | Reed 2<br>( <i>Sruti</i> No.) |
|----|--------------------|-------------------------------|-------------------------------|
| 1  | <i>Sa</i>          | 0 or 22                       | 81/80                         |
| 2  | <i>ri</i>          | 1                             | 2                             |
| 3  | <i>Ri</i>          | 3                             | 4                             |
| 4  | <i>ga</i>          | 5                             | 6                             |
| 5  | <i>Ga</i>          | 7                             | 8                             |
| 6  | <i>Ma</i>          | 9                             | 10                            |
| 7  | <i>ma</i>          | 11                            | 12                            |
| 8  | <i>Pa</i>          | 13                            | 40/27 or 64/45                |
| 9  | <i>dha</i>         | 14                            | 15                            |
| 10 | <i>Dha</i>         | 16                            | 17                            |
| 11 | <i>ni</i>          | 18                            | 19                            |
| 12 | <i>Ni</i>          | 20                            | 21                            |
| 13 | <i>Sa</i> (Octave) | 22                            |                               |

It will be observed that

1. Since there are two reeds to a key, both will sound on depressing the key. As only one *sruti* is required at a time, *one of the reeds* is muted and the other is sounded. Muting is done by the very simple expedient of inserting a piece of paper beneath the reed.

TABLE I.1

| Sr. No.            | Fractional value | Frequency         | Sr. No.            | Fractional value | Frequency                             |
|--------------------|------------------|-------------------|--------------------|------------------|---------------------------------------|
| $\frac{3}{2}$ ↑ 11 | 45/32            | 337 $\frac{1}{2}$ | ↑ 12               | 729/512          | 341 $\frac{23}{32}$                   |
| 20                 | 15/8             | 450               | 21                 | 243/128          | 455 $\frac{5}{8}$                     |
| $\frac{4}{3}$ ↓ 7  | 5/4              | 300               | 8                  | 81/64            | 303 $\frac{3}{4}$                     |
| 16                 | 5/3              | 400               | $\frac{3}{2}$ ↑ 17 | 27/16            | 405                                   |
| $\frac{4}{3}$ ↓ 3  | 10/9             | 266 $\frac{2}{3}$ | 4                  | 9/8              | 270                                   |
|                    |                  |                   | 13                 | 3/2              | 360                                   |
|                    |                  |                   | Sa 22              | 1                | 240                                   |
|                    | 40/27            | 353 $\frac{5}{9}$ | 9                  | 4/3              | 320                                   |
|                    |                  |                   | $\frac{4}{3}$ ↓ 18 | 16/9             | 426 $\frac{2}{3}$                     |
|                    |                  |                   | 5                  | 64/54            | 284 $\frac{4}{9}$                     |
|                    |                  |                   | 14                 | 128/81           | 379 $\frac{7}{27}$                    |
|                    |                  |                   | 1                  | 256/243          | 252 $\frac{68}{81}$                   |
|                    |                  |                   |                    |                  | 1024/729 337 $\frac{29}{243}$ (dha.K) |
|                    |                  |                   |                    |                  | (see Sr. 11)                          |

| Sr. No.            | Fractional value | Frequency         |
|--------------------|------------------|-------------------|
|                    | 81/80            | 243               |
| $\frac{3}{2}$ ↑ 10 | 27/20            | 324               |
| 19                 | 9/5              | 432               |
| 6                  | 6/5              | 288               |
| dha                |                  |                   |
| $\frac{4}{3}$ ↓ 15 | 8/5              | 384               |
| 2                  | 16/15            | 256               |
|                    | 64/45            | 341 $\frac{1}{3}$ |
|                    |                  | (see Sr. 12)      |

Note that Sr. 12 can have at least three values. Hence the series is unending (vide B. C. Deva, *Sangeet Natak*, Vol. 16).



TABLE I. 2

| Sr. No. | Fractional Value | Frequency           | Interval between successive <i>sruti</i> -s |
|---------|------------------|---------------------|---|
| 22 (0)  | 1                | 240                 |   |
| 1       | 256/243          | 252 $\frac{68}{81}$ | 256/243                                     |
| 2       | 16/15            | 256                 | 81/80                                       |
| 3       | 10/9             | 266 $\frac{2}{3}$   | 25/24                                       |
| 4       | 9/8              | 270                 | 81/80                                       |
| 5       | 64/45            | 284 $\frac{4}{9}$   | 256/243                                     |
| 6       | 6/5              | 288                 | 81/80                                       |
| 7       | 5/4              | 300 $\frac{3}{4}$   | 25/24                                       |
| 8       | 81/64            | 303                 | 81/80                                       |
| 9       | 4/3              | 320                 | 256/243                                     |
| 10      | 27/20            | 324                 | 81/80                                       |
| 11      | 45/32            | 337 $\frac{1}{2}$   | 25/24                                       |
| 12      | 729/512          | 341 $\frac{23}{32}$ | 81/80                                       |
| 13      | 3/2              | 360                 | 256/243                                     |
| 14      | 128/81           | 379 $\frac{7}{27}$  | 256/243                                     |
| 15      | 8/5              | 384                 | 81/80                                       |
| 16      | 5/3              | 400                 | 25/24                                       |
| 17      | 27/16            | 405                 | 81/80                                       |
| 18      | 16/9             | 426 $\frac{2}{3}$   | 256/243                                     |
| 19      | 9/5              | 432                 | 81/80                                       |
| 20      | 15/8             | 450                 | 25/24                                       |
| 21      | 243/128          | 455 $\frac{5}{8}$   | 81/80                                       |
| 22      | 2                | 480                 | 256/243                                     |

$$9/8 \div 10/9 = 81/80 \quad 10/9 \div 16/15 = 25/24$$

$$16/15 \div 81/80 = 256/243$$

$$(4) - (3) = 1 \quad (3) - (2) = 1 \quad (2) - (1) = 1$$

2. Two intervals corresponding to 81/80 (next to *Sa*) and 40/27 or 64/45 (next below *Pa*) are placed with the *Sa* and *Pa* keys respectively.

These do not come into the 22 *sruti* table of the designer, Gurubaksh Singh (also the subject of the experiment).

### Experiment

1. The tones of the harmonium were recorded in a partially "conditioned" studio in the Akademi on a magnetic tape recorder. (NEC DN31R), speed 19 cm/sec, through a good quality microphone.

2. An audio oscillator (Radart 926 B) was operated by the experimenter. The frequency of the tone, sounding through a loud speaker, was

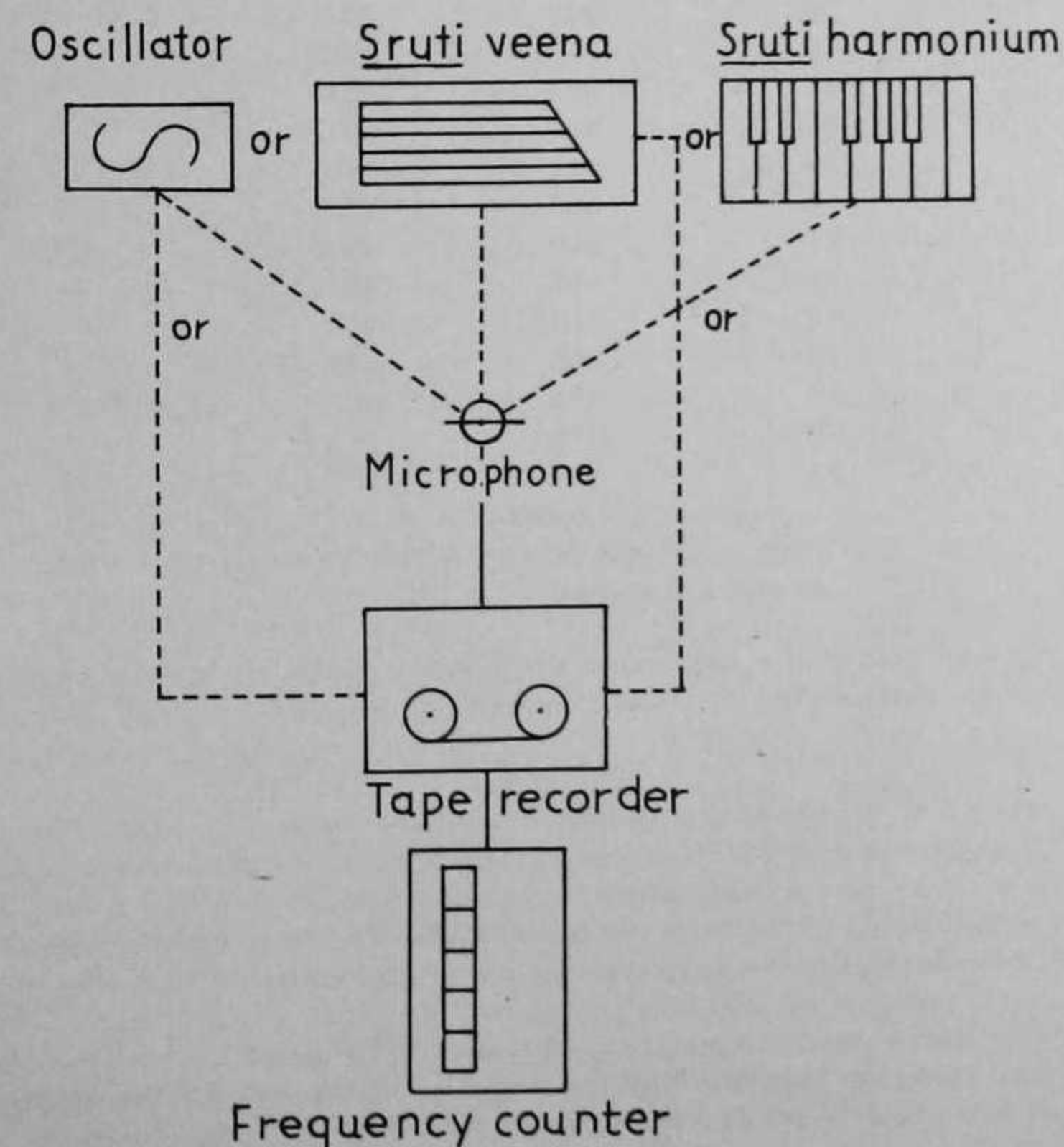
altered till the subject reported unison with the given tone of the harmonium. (It was found that the subject judged unison by means of beats). The oscillator tone was immediately recorded on tape.

Thus there were two tones for every *sruti*. One of the harmonium and the second of the oscillator (a 'pure' tone), judged to be of the same pitch by the subject.

These were subjected to frequency analysis using a digital frequency counter.

The tone of the harmonium, being complex and hence not amenable to direct measurement of its fundamental frequency, was first passed through a filter. Only the fundamental (lowest frequency as shown by the counter) was passed. This output was fed into the counter which measured the frequency.

The oscillator tone, being a 'pure' one, was fed directly into the counter (Fig. 1).





## Results

Table I. 3 gives the frequencies of the 22 *sruti*-s. The judgement of unison between the harmonium and the oscillator tones is indeed extremely accurate.

TABLE I. 3

| No.<br>Sruti | Harmonium<br>Hz          | Oscillator<br>Hz |
|--------------|--------------------------|------------------|
| Sa (0)       | 273                      | 273              |
| 1            | 287                      | 288              |
| 2            | 291                      | 292              |
| 3            | 305                      | 305              |
| 4            | Could not<br>be measured | 307              |
| 5            | 324                      | 324              |
| 6            | 327                      | 329              |
| 7            | 342                      | 343              |
| 8            | 347                      | 346              |
| 9            | 367                      | 367              |
| 10           | 370                      | 370              |
| 11           | 386                      | 387              |
| 12           | 391                      | 391              |
| 13           | 411                      | 412              |
| 14           | 433                      | 432              |
| 15           | 440                      | 439              |
| 16           | 457                      | 459              |
| 17           | 419*                     | 461              |
| 18           | 488                      | 487              |
| 19           | 494                      | 492              |
| 20           | 515                      | 515              |
| 21           | 521                      | 520              |

\*There is an obvious experimental or constructional error here.

As was said in the beginning, the present experiment was conducted to determine whether the musician actually tuned the intervals calculated by him.

Table I. 4 brings these results together, column 1 gives the *sruti* number, 2 gives ratios to Sa, 3 is the actual frequency of the harmonium, 4 the frequency of each tone as calculated from the ratios ( $Sa = 273$ ), 5 and 6 the ratios of actual tones to Sa in cents and savarts. The final column shows the deviation of actual from the calculated in cents and savarts.

It is seen that the agreement between the theoretical and the actual is extremely close. In fact, the highest error is 0.82% for the 9th *sruti*. The calculated value is 364 Hz and the actual is 367 Hz.

## EXPERIMENT II

S. Ramanathan, Tiruchirapalli has constructed a *sruti-veena* the details of which follow. (The description is an edited version of S. Ramanathan's paper read at a symposium on Musical Scales held at the Akademi in 1973).

TABLE I. 4

| S. No.                  | Ratios  | Actual Hz | Calculated Hz         | From Actual Values |         | Deviation<br>in Cents;<br>Savarts |
|-------------------------|---------|-----------|-----------------------|--------------------|---------|-----------------------------------|
|                         |         |           |                       | Cents.             | Savarts |                                   |
| 0                       | 1       | 273       | 273                   | —                  | —       |                                   |
| 1                       | 256/243 | 287       | $287 \frac{147}{243}$ | 87                 | 22      | -6;-1                             |
| 2                       | 16/15   | 291       | $291 \frac{1}{5}$     | 111                | 28      | 0;0                               |
| 3                       | 10/9    | 305       | $303 \frac{1}{3}$     | 192                | 48      | +11;+3                            |
| 4                       | 9/8     | 307       | $307 \frac{1}{8}$     | 204                | 51      | 0,0                               |
| (could not be recorded) |         |           |                       |                    |         |                                   |
| 5*                      | 64/54   | 324       | $323 \frac{5}{9}$     | 297                | 74      | 0;0                               |
| 6                       | 6/5     | 327       | $327 \frac{3}{5}$     | 313                | 78      | 0,0                               |
| 7                       | 5/4     | 342       | $341 \frac{1}{4}$     | 390                | 98      | +5;+1                             |
| 8                       | 81/64   | 347       | $345 \frac{33}{64}$   | 416                | 104     | +5;+1                             |
| 9**                     | 4/3     | 367       | 364                   | 513                | 128.5   | +15;+3.5                          |
| 10                      | 27/20   | 370       | $368 \frac{11}{20}$   | 527                | 132     | +5;+1                             |
| 11                      | 45/32   | 386       | $383 \frac{29}{32}$   | 600                | 150     | +9;+2                             |
| 12                      | 729/512 | 391       | $388 \frac{361}{512}$ | 622                | 156     | +9;+2                             |
| 13                      | 3/2     | 411       | $409 \frac{1}{2}$     | 709                | 178     | +5;+1                             |
| 14                      | 128/81  | 433       | $431 \frac{11}{27}$   | 799                | 200     | +8;+2                             |
| 15                      | 8/5     | 440       | $436 \frac{4}{5}$     | 827                | 209     | +12;+5                            |
| 16                      | 5/3     | 457       | 455                   | 892                | 224     | +7;+2                             |
| 17                      | 27/16   | 461@      | $460 \frac{11}{16}$   | 907                | 227.5   | 0;0                               |
| 18                      | 16/9    | 488       | $485 \frac{1}{3}$     | 1006               | 252     | +11;+2.5                          |
| 19                      | 9/5     | 494       | $491 \frac{2}{5}$     | 1027               | 257.5   | +11;+2.5                          |
| 20                      | 15/8    | 515       | $511 \frac{7}{8}$     | 1099               | 276     | +10;+3                            |
| 21                      | 243/128 | 521       | $518 \frac{35}{128}$  | 1119               | 281     | +10;+3                            |
| 22                      | 2       | 546**     |                       | 1200               | 301     |                                   |

\* Differs from S. Ramanathan (See Expt. II). Highest error = +0.82%

\*\* Calculated; not analysed from record (9th *Sruti*)

@ Oscillator frequency.



## Construction

"The *Sruti-Veena* is made of a solid board fixed to a thick wooden frame. 23 strings run along the wooden board over a bridge. The strings can be tuned to the required pitch by means of small pegs. Further, the micro adjustment of the *sruti*-s can be made by means of another set of small pegs fitted to the right hand side of the bridge. By the side of these strings a *veena* fretboard with four strings is fixed. A built-in microphone with a volume control is fixed in the instrument itself. The output is taken to a loudspeaker, recorder and/or a measuring instrument.

## Tuning

"Although there are several recognisable *sruti*-s in an octave, I take for practical purposes only the 22 from those which occur in the *Shadja-Panchama* and *Shadja-Madhyama bhava*-s (cycles of fifths and fourths) starting from *Shadja*, *Madhyama*, *antara-gandhara* and *sadharana gandhara*. While numbering the 23 strings I give Zero for the fundamental *Sa* and 22 for the octave *Sa*. Then string numbers 1, 2, 3 & 4 are allotted for *r1*, *r2*, *R3* & *R4* respectively; string numbers 5 to 8 are allotted to the *gandhara* series, string numbers 9 to 12 for *madhyama* series, string number 13 for *panchama*, string numbers 14 to 17 for *dhaivata* and 18 to 21 for *nishada*.

"If we take unity as the frequency of fundamental *Sa*, the Octave *Sa* will be 2, *panchama* 3/2, *madhyama* 4/3, *antara-gandhara* 5/4 and *sadharana gandhara* 6/5 and their frequencies are easily recognisable and the string numbers 22, 13, 9, 7 and 6 are tuned to these frequencies.

"The other frequencies are got in cycles of fifths and fourths as follows:

"Assuming this *panchama* as *shadja* we go up 13 *sruti* interval. Now we get the 26th *sruti* which is in the next octave. To bring this to the lower octave in which we are working, deduct 22 from 26. We get 4. String number 4 is *R4*, *chatussruti rishabha* of frequency  $\frac{9}{8} \cdot \frac{3}{2} \times \frac{3}{2} \times \frac{1}{2} = \frac{9}{8}$ .

"Again we go up a *Pa* interval and get 4 + 13 = 17. The string No. 17 is *D4* with frequency  $\frac{27}{16} \cdot \frac{9}{8} \times \frac{3}{2} = \frac{27}{16}$ .

"Again assuming *D4* as *shadja* we go up a *Pa* interval. That is 17 + 13 = 30. Deducting 22 from this we get 8 and the string number 8 is *G4* with 81/64 as its frequency ratio  $\frac{27}{16} \times \frac{3}{2} \times \frac{1}{2} = \frac{81}{64}$ .

"From *G4* we go up a *panchama* interval 8 + 13 = 21. The string number 21 is *N4*, 243/128; ( $81/64 \times 3/2 = 243/128$ ).

"Now we go up in the cycle of fourths. The 9th *sruti* is *suddha madhyama* 4/3. Assuming this 9th *sruti* 'ma' as 'sa' its *ma* is 9 + 9 = 18.  $4/3 \times 4/3 = 16/9$ .

"The 9th *sruti* of this 18 + 9 = 27 and deducting 22 from this we get the 5th *sruti* *ga1* whose frequency is  $\frac{32}{27} \cdot \frac{16}{9} \times \frac{4}{3} \times \frac{1}{2} = \frac{32}{27}$ . Continuing this process we get the 14th *sruti* *dha1* (128/81) and first *sruti* 'r1', 256/243. We stop the cycle here.

"Now we start from the 7th *sruti*, *antara Ga* 5/4 and go up in cycles of fifths. 7 + 13 = 20. This string number 20 is *N3* whose frequency is  $\frac{15}{8} \cdot \frac{5}{4} \times \frac{3}{2} = \frac{15}{8}$ .

"In the next step we get the 11th *sruti* *Ma3*, 45/32.  $15/8 \times 3/2 \times 1/2 = 45/32$ .

"Now we start from 7th *sruti* *Ga* and go up by *ma* interval of 9 *srutis*. The *ma* of *Ga* is 7 + 9 = 16. The 16th string is *D3* with frequency  $\frac{5}{3} \cdot \frac{5}{4} \times \frac{4}{3} = \frac{5}{3}$ . The *madhyama* of this is *Ri3* ( $5/3 \times 4/3 \times 1/2 = 10/9$ ). We stop with this.

"Next we assume *ga2* (6/5) as *shadja* and go up in *Panchama* interval. 6 + 13 = 19. The string number 19 is *ni2*, 9/5.  $6/5 \times 3/2 = 9/5$ . Again we go up a *Panchama* interval that 19 + 13 = 32; -22 = 10. The 10th string is *ma2*. Its frequency is  $\frac{27}{20} \cdot \frac{9}{5} \times \frac{3}{2} \times \frac{1}{2} = \frac{27}{20}$ .

"Now we proceed from the same 6th *sruti* *ga2* and get 6 + 9 = 15. The string No. 15 is *dha2* with frequency 8/5. In the next step we get the 2nd *sruti* *r2* 16/15. When we go a further 9 *sruti* interval we get once again *M3* the 11th *sruti* as 64/45.

"If we develop this process we will be getting more ratios which have no recognisable significance. However, I go a *Panchama* step further from *Ni4* which gets us to the 12th *sruti* *Ma4* as 729/512. When we go up a 9 *sruti* interval from *R3* we once again get 12th *sruti* *M4* 40/27.

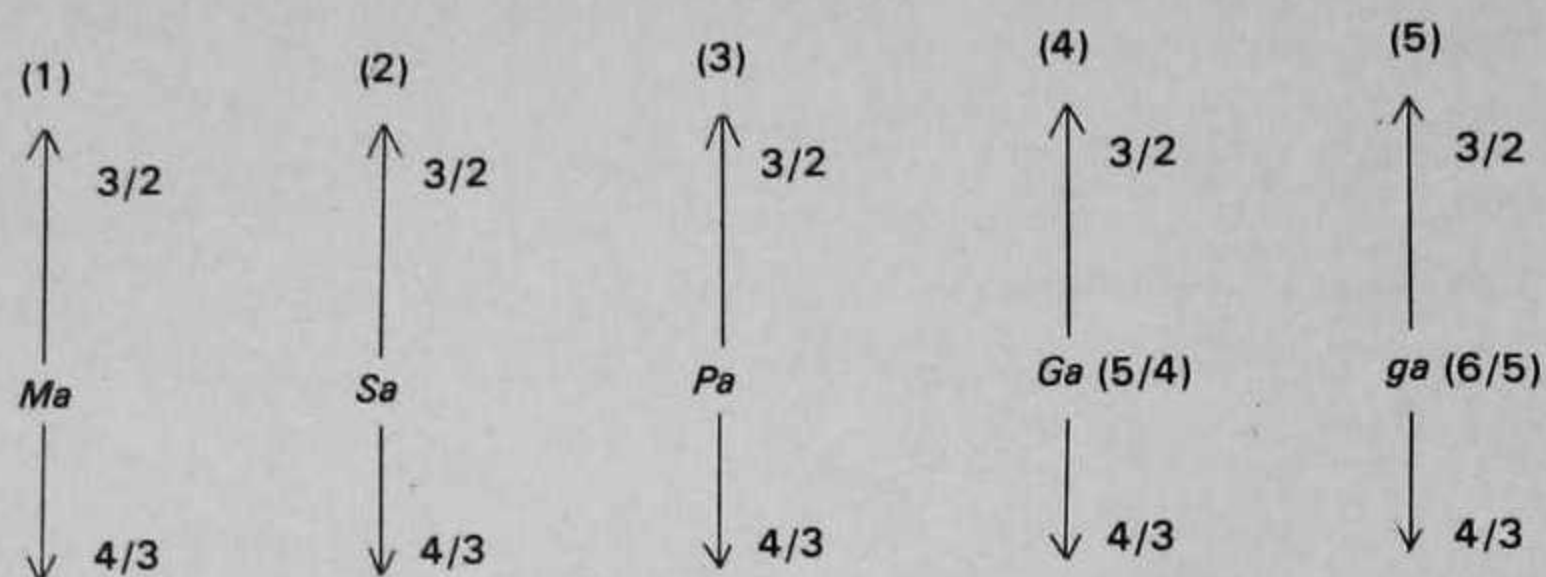
"Then we go up a 9 *sruti* interval from *r1* which gives *M2* as 1024/729.

"So we get now 4 *Rishabhas*, 4 *Gandharas*, 4 *Dhaivatas* and 4 *Nishadas*. But in case of *Madhyama* we get 3 pairs of frequencies besides the starting *Madhyama*—m (4/3). We have two frequencies for the 10th *sruti* m2, i.e.  $\frac{27}{20}$  and  $\frac{1024}{729}$  and for the 11th *sruti* *M3* we have  $\frac{45}{32}$  &  $\frac{64}{45}$  and for the 12th *sruti* *M4*  $\frac{729}{512}$  &  $\frac{40}{27}$ . From these frequencies we omit  $\frac{40}{27}$  in the 12th *sruti* which is called *Chyuta panchama* (which is lower than the *Panchama* by a comma—81/80). The frequency  $\frac{1024}{729}$  in the 10th *sruti* is omitted by all authorities without ascribing any reason. In the 11th *sruti* *M3* the ratio 45/32 is accepted by all. For the 12th *sruti*—*M4*, we have to choose between 729/512 and 64/45 although it is in the 11th *sruti*. C. S. Iyer, prefers 64/45 as he considers the difference between the ratios indistinguishable. By the same argument it is all the more reasonable to choose 729/512 for *M4* as it is a comma above *M3*, i.e., 45/32 while 64/45 is not. It is significant to note here that the differences between *r1* and *r2*, *R3* & *R4*, *g1* & *g2*, *G3* & *G4*, *m1* & *m2*... etc. work out to a comma. Perhaps the choice of 64/45 as *M4* works out to 16/15 (*r2*).



As before the series can be indicated as below:

TABLE II.1



The difference between the first and this is having more starting points. It may be remembered that the former case only *Sa*, *Ga* and *dha* commenced the series. Here *Ma* and *Pa* also have been used. Further, besides *Ga* and its inversion *dha*, *ga* (6/5) which is an inverse of 5/3 *Dha* commences a series.

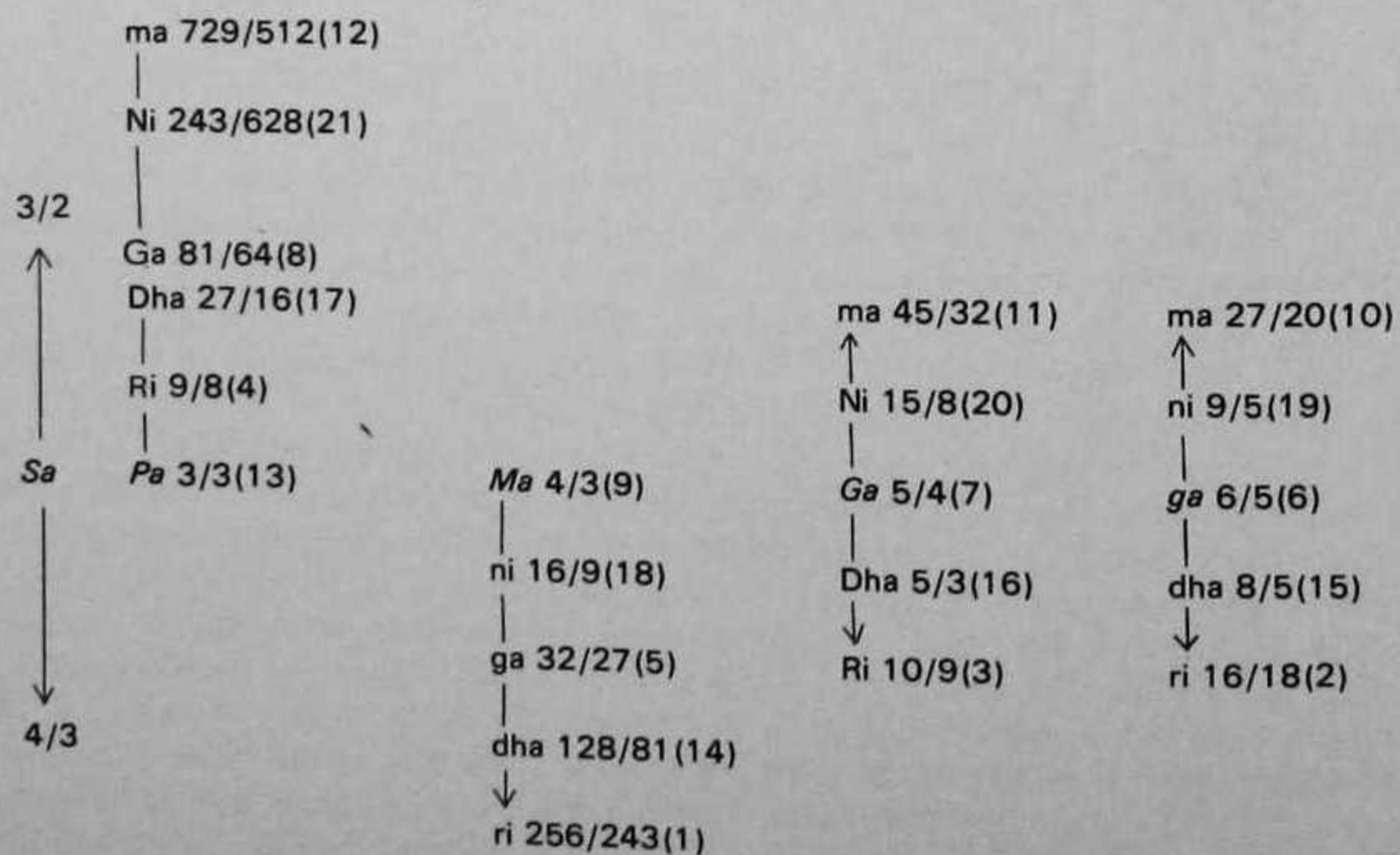
The various series with *sruti* numbers in brackets are given below. This is an empirical one and need not be discussed further (Table II. 2).

#### Experiment

The tuning of the *veena* on the above lines was done by a Karnatak musician of some standing.

The recording and analysis were done as before.

TABLE II. 2



Bringing these 22 together we have Table II. 3.

TABLE II. 3

(Prof. S. Ramanathan of Madurai has listed a set of *raga*-s in Karnatak music to which the 22 *sruti*-s are assigned.)

| <i>Sruti</i><br>No. | <i>Svara</i> | Frequency<br>Ratio                   | Name of<br><i>Raga</i> |
|---------------------|--------------|--------------------------------------|------------------------|
| 1                   | r1           | $\frac{256}{243}$                    | Gaula                  |
| 2                   | r2           | $\frac{16}{15}$                      | Vasanta                |
| 3                   | R3           | $\frac{10}{9}$                       | Bhairavi               |
| 4                   | R4           | $\frac{9}{8}$                        | Sankarabharanam        |
| 5                   | g1           | $\frac{32}{27}$ *                    | Varali                 |
| 6                   | g2           | $\frac{6}{5}$                        | Kanada                 |
| 7                   | G3           | $\frac{5}{4}$                        | Kambhoji               |
| 8                   | G4           | $\frac{81}{64}$                      | Devagandhari           |
| 9                   | Ma           | $\frac{4}{3}$                        | Hindolam               |
| 10                  | ma2          | $\frac{27}{20}$ or $\frac{64}{45}$ * | Gaulipantu             |
| 11                  | ma3          | $\frac{45}{32}$                      | Saranga                |
| 12                  | ma4          | $\frac{729}{512}$                    | Varali                 |
| 13                  | Pa           | $\frac{3}{2}$                        |                        |
| 14                  | d1           | $\frac{128}{81}$                     | Saveri                 |
| 15                  | d2           | $\frac{8}{5}$                        | Bauli                  |
| 16                  | D3           | $\frac{5}{3}$                        | Nayaki                 |
| 17                  | D4           | $\frac{27}{16}$                      | Suddha Saveri          |
| 18                  | n1           | $\frac{16}{9}$                       | Surati                 |
| 19                  | n2           | $\frac{9}{5}$                        | Dhanyasi               |
| 20                  | N3           | $\frac{15}{8}$                       | Hamsanandi             |
| 21                  | N4           | $\frac{243}{128}$                    | Kalyani                |
| 22                  | Sa (octave)  |                                      |                        |

\*Differ. from those of Gurubaksh Singh

TABLE II. 4

| S. No. | <i>Sruti</i> veena | Oscillator |
|--------|--------------------|------------|
| 0      | 373                | 374        |
| 1      | 392                | 391        |
| 2      | 398                | 399        |
| 3      | 414                | 414        |
| 4      | 419                | 418        |
| 5      | 444                | 444        |
| 6      | 448                | 446        |
| 7      | 461                | 457        |
| 8      | 472                | 472        |
| 9      | 499                | 500        |
| 10     | 504                | 504        |
| 11     | 514                | 514        |
| 12     | 555                | 555        |
| 13     | 560                | 560        |
| 14     | 586                | 586        |
| 15     | 600                | 598        |
| 16     | 623                | 624        |
| 17     | 628                | 629        |
| 18     | 664                | 662        |
| 19     | 670                | 670        |
| 20     | 697                | 699        |
| 21     | 702                | 702        |
| 22     | 748                | 748        |



TABLE II. 5

| No. | Ratio   | Actual               | <i>Sruti</i> veena<br>Calculated | Cents | Savarts | Deviation<br>from standard |
|-----|---------|----------------------|----------------------------------|-------|---------|----------------------------|
| 0   | 1       | 373                  | 373                              | 0     | 0       | 0                          |
| 1   | 256/243 | 392                  | 392 $\frac{232}{243}$            | 86    | 22      | -4; -1                     |
| 2   | 16/15   | 398                  | 397 $\frac{13}{15}$              | 112   | 28      | 0;0                        |
| 3   | 10/9    | 414                  | 414 $\frac{4}{9}$                | 180   | 45      | 0;0                        |
| 4   | 9/8     | 419                  | 419 $\frac{5}{8}$                | 201   | 50.5    | -4; -1                     |
| 5   | 32/27   | 444                  | 442 $\frac{2}{27}$               | 301   | 76      | +8; +2                     |
| 6   | 6/5     | 448                  | 447 $\frac{3}{5}$                | 317   | 80      | 0;0                        |
| 7   | 5/4     | 461                  | 466 $\frac{1}{4}$                | 366   | 92      | -19; -5                    |
| 8   | 81/64   | 472                  | 472 $\frac{5}{64}$               | 407   | 102     | 0;0                        |
| 9   | 4/3     | 499                  | 497                              | 503   | 126     | +6; +2                     |
| 10  | 27/20   | 504                  | 503 $\frac{11}{20}$              | 521   | 131     | 0;0                        |
| 11  | 45/32   | 514                  | 524 $\frac{17}{32}$              | 555   | 139     | -9; -8                     |
| 12  | 729/512 | 531 $\frac{45}{512}$ | 552 $\frac{16}{27}$              | 88    | 173     | +19; +2                    |
| 13  | 3/2     | 560                  | 559 $\frac{1}{2}$                | 703   | 176.5   | 0;0                        |
| 14  | 128/81  | 586                  | 589 $\frac{35}{81}$              | 782   | 196     | +9; +2                     |
| 15  | 8/5     | 600                  | 596 $\frac{4}{5}$                | 823   | 206.5   | +9; +1                     |
| 16  | 5/3     | 623                  | 621 $\frac{2}{3}$                | 888   | 223     | +3; +1                     |
| 17  | 27/16   | 628                  | 629 $\frac{7}{16}$               | 902   | 226     | -2; -1                     |
| 18  | 16/9    | 664                  | 663 $\frac{1}{9}$                | 998   | 250.5   | +3; +1                     |
| 19  | 9/5     | 670                  | 671 $\frac{2}{5}$                | 1014  | 254     | -2; -1                     |
| 20  | 15/8    | 697                  | 699 $\frac{3}{8}$                | 1082  | 271.5   | -5; -4                     |
| 21  | 243/128 | 702                  | 708 $\frac{15}{128}$             | 1094  | 275     | -15; -4                    |
| 22  | 2       | 748                  | 746                              | 1204  | 302     | +4; +1                     |

Highest error

$$12\text{th } Sruti - (531 \frac{45}{512}) = +4.52\%$$

$$11\text{th } Sruti - (524 \frac{17}{32}) = -1.71\%$$

## Results

Table II. 4 gives the frequencies of the 22 *sruti*-s both on the veena and the Oscillator. Once again the very close tuning is evident. Here again it was found that the subject judged unison of two tones by beats.

Table II. 5 brings the results together, as in Table I. 4. In the present case, the highest error is +4.52% for the 12th *sruti*. The error, apart from any human one, is partly due to the veena itself. It is difficult to tune, as in some cases tensing of one string often affects other strings. (Once one of the strings (12th) even snapped and we had to find a substitute veena.)

## Comments

1. The experiments here reported are *pilotary* and have to be treated as such. But they are enough to show that such experiments for *steady tones* can be done, as auditory judgement is seen to be very satisfactory. It should be possible to continue such research into *raga* tones, when held steady. Dynamic process in *raga* rendering cannot be on these lines.

*It is good to remember that Indian music once did use harps, psalteries and so on for playing jati-s and raga-s.*

2. The harmonium can accommodate only one given tuning; *veena* used here (a kind of psaltery) can accommodate any kind of tuning.

3. As for the theoretical aspect—one into which we need not go deeper now:

(a) Gurubaksh Singh's series, it will be noticed, does not have 40/27 as the 12th *sruti*. (This, perhaps, is at variance with ancient standards). So also is the case with Ramanathan's series.

(b) There is one more series which is perhaps nearer the ancient Indian one. This will be worked out and measured in due course.

(c) Indeed it is obvious that both these series—as any other one are *unending ones*. The point of approximation and reduction to 22 *sruti*-s are the areas of discussion (*vide* B. C. Deva, *The Problem of Continuity in Music, sruti*, in *Psychoacoustics of Music and Speech*, 1967; also see various pps. in *Sangeet Natak*, Vols. 16, 17).

(d) Again it is very important to note that what have been measured are physical frequencies and *not* pitches.

In all these cases, apart from *Sa-Pa*, *Sa-Ma* (3/2 & 4/3), *Sa-Ga* (5/4) and *Sa-Dha* (5/2) or their inversions have been used. How far do they have textual sanction?

(e) *Sources of error*. It is very necessary to emphasize that this was a *pilot* and *probe* experiment, though the results are encouraging. It is not, hence, a highly controlled one.



The very purpose of the experiment makes the subject, the human observer, a 'black box'. The musician's acuity in tuning and his capacity to tune the instrument to calculated values are being tested. The error here is determinable only if all others are reduced. A number of harmoniums or veena-s tuned by a number of musicians will give the experiment a statistical validity. The veena itself must be such that it should not easily change tuning. The recording and measuring equipment, and fluctuation in the electric power introduce their own errors. Notwithstanding all these, this probe certainly shows that it is useful for studying 'steady' tones in *raga*-s.

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## Music as a Non-International Universal

William P. Malm

The fame and talent of Indian musicians is such that they are often involved in all kinds of international meetings as are the artists and scholars of many other parts of the globe. The hosts of such important meetings are always concerned that their honored guests feel welcome. For this purpose they usually enlist some regional dignitary whose primary task is to open the meeting and set a friendly tone in order that things begin and hopefully continue in a proper manner. With guests from many parts of the world this is indeed a challenge. The standard procedure is for the speaker to expound about the exceptional value of music in this strife-torn world as an international language which helps to create brotherhood, love, and peace among all the people of the world. It is truly a lovely idea and one that will inspire positive feelings in many sensitive hearts. There is only one problem with this idea; it is not true. If it were true, Indians would flock to Chinese opera movies and Italians would buy out every ticket of a touring Jatra theatre group from Orissa performing in Rome. However, it is a fact that a rare performance of Japanese court orchestra music and dance (*gagaku* and *bugaku*) in Vienna once played to an almost empty house while a similar *ah aak* ensemble from Korea played in neighboring Japan to a house filled with emigrant Koreans who soon shouted for better, more 'real' Korean music.

The fact that someone went somewhere in hopes of hearing some music does seem to imply that music *is* a universal need, an essential element in every culture or sub-culture of every part of the world. This need is equally great for a young man walking down the street with a transistor plugged in his ear as it is for a paddy planter singing to his rice shoots to make them grow. Such a terrible need for music in the world is indeed worthy of note at every international music conference. However, along with this universal truth one must add that music is, in fact, *not* an international language any more than, for example, Swahili or Chinese are in the fields of speech communication. Music, in a world sense, consists of a whole series of *equally logical but different closed systems*. A listener from one culture with wide international musical experience might understand the meaning of the word 'different' in the above definition as he shudders at the thought of sitting through another hour of some specific 'terrible' music. However, note that the term 'logical' implies that the characteristic parts of any given musical event actually are set in an order and a hierarchy. These are determined by the musical culture to which that event belongs, and need not conform to other cultures' view of musical logic. The word 'equal' means that one cannot place a value judgement on a given system in any international sense. Thus a German symphony is not necessarily better than an Indian *gat*. Naturally, one has the aesthetic



right to like one style or form better than another but this is not a view that works very well towards an international musical understanding. In a related context we should note that the word 'closed' in the definition above means that the elements of a music and their arrangements in one culture may be radically different from those of another and may, in fact, be unusable out of their original tradition. To understand this last point merely think of a *dhrupad* sung by an Italian opera soprano with orchestral accompaniment, a Mozart string quartet played by a Chinese opera orchestra, a Javanese *gamelan* composition rendered by a brass band, or a Wagnerian aria played on a *veena*!

At this point one may begin to wonder: what really is music after all? From the standpoint of the study of music in world cultures (a science known to some as ethnomusicology) there seem to be two answers. One is purely cultural and the other is potentially universal. The first is that a sonic event is called music if the knowledgeable carriers of the culture in which it occurs call it music themselves. No matter what the outside listener may feel about the sound, the cultural definition depends only on the opinion of the actual carrier of the culture involved. What sounds like a shout to one person may be a love song to another. By the same token one may hear a lovely melody which culturally may turn out not to be music at all. A case in this point is found in certain sects of Islam in which music is quite forbidden in the mosque. In such circumstances it is possible only to 'read' the Qur'an and the rules for a proper reading are often most rigorous, systematic, and logical. There may even be regional and international contests of such readings as well as long play recordings of famous readers but, culturally speaking there is not music.

The second answer to our question of what is music must reflect a more international, neutral view. In this context, any sound event may be considered and studied as though it were music if it combines the elements of pitch, rhythm, and dynamics in a way that communicates emotionally, aesthetically, or functionally in a manner that either transcends or is unrelated to speech communication. Regardless of what the culture may call it or what you may think of it, such an event can be 'analysed' in order to find its musical components. In this manner it can be properly compared with musics of other cultures or with other sonic events within that one culture. Musical analysis and cultural context; both these approaches are very useful in one's development of a tolerance and perhaps an understanding of that wonderful non-international phenomenon called music. Let us dwell first on some of the analytical aspects of this musical universe.

If we limit ourselves to literate, urban music cultures one could view the world in four or five large segments: South Asia, the Near East, the Far East, Europe, and perhaps the Southeast Asian knobbed gong culture. Around each of these central systems are orbiting many kinds of different but related styles usually called national musics. Thus Germany, America, Argentina, and France belong to one large family while India, Pakistan, and Bangla Desh are part of another. The Near Eastern family has very widespread relatives along the Mediterranean littoral and in Africa and South Asia as well as

in parts of Malaysia and the southern Philippines while East Asian culture holds rather closely to China and its neighbors such as Korea and Japan. The knobbed gong culture of Southeast Asia is a smaller but equally important group that seems to maintain yet another logical but different system. Of course, all these systems have been in contact with each other at some time or another and in the modern mass communication world are interpenetrating even further than before. One need merely listen to the more imaginative examples of Indian film music to recognise that while music is not an international language neither is it a set of totally isolated sounds. Nevertheless, when one wishes to deal with traditional aspects of one musical culture, the presence of an equally logical but different system in its organization may make one's own means of musical analysis most inappropriate. Thus, for example, all the wondrous means used in the West to explain a Beethoven symphony will tell us nothing about the music of a Thailand *pi phat* orchestral piece. By the same token, if one looks at an Indian *khayal* in terms of the western sonata-allegro form, it is chaos; while, on the other hand, if one applies the thorough analytical system of Japanese Noh drama to Bach cantatas, they too will make no sense.

In recent years some of the analytical systems used in the field of linguistics have proven most fruitful in 'taking apart' the actual sonic events of various world musics. These techniques have an appeal for many 'world-curious' musicians, particularly those whose major interest is or was composition, for composers are rather like auto mechanics. They both have an incurable need to find out how things work. If a mechanic sees an auto drive by in which the driver sits with his arms folded, he will be dying to know how the machine works. If he opens the bonnet and finds almost no engine as well, he will pursue the secret even further. It is much in the same way that many western musicians with compositional training became quite emersed in an 'exotic' music. Colin McPhee's life in Bali is a good case in point. Other compositionally-trained musicians such as Mantle Hood moved on into the broader field of ethnomusicology. Technically, this discipline is defined as the scientific study of music in any world culture or subculture in terms of its actual sounds and performance practice in its relation to the specific culture, or in comparison with other cultures. It is an imposing definition but secretly those musicians who have pursued this profession may admit that a subliminal goal of their work is hedonism. By that is meant that a sensitive musician would like to be able to enjoy a musical event that other people obviously find beautiful but, because of the non-international aspect of music, he cannot fathom very well or perhaps not at all. Readers who are not musicians will recognise an analogous feeling which can be generated when one attends a reception held in a foreign tongue that you do not speak. Thus it is that musicians and musical scholars of the modern world have pursued the elusive muse and then, having once found her in one of her disguises, have attempted to teach each other her many dialects so that they may never feel left out of important musical conversations.

So far, we have spoken of analysis primarily in terms of the sounds of music. The study of that aspect of the art can teach us a great deal.



However, we must remember that the sounds themselves are only part of a musical system. One of the fascinations of the total system is the logical way in which all its parts inter-relate. Take, for example, the logical results of the Indian *raga* system. Since a *raga* is not merely a scale but rather a scalar-melody type with many important characteristics such as ornamentations and pitch variations, involved chords and chord progressions never became part of the Indian classical system. Such thick vertical sonic structures would simply muddy up the musical picture. However, the drone did become essential for its need is logical. The *vadi* and *samvadi* and all the many other important aspects of the *raga* fit together in performance partly because the drone is constantly there to remind the listener of the *raga*'s tonal point of origin. Because there are so many factors which make up a *raga* it is also logical that there be a long, rhapsodic *alap* before the actual start of a composition. One doesn't need more than a chord or two to establish C major in western music but the Bhairav *raga* simply can't be properly introduced by merely a few plunks on the *sitar*. The very construction of that instrument, by the way, is indicative of its logical connection with the Indian system. Drone strings are present because they may be needed while the frets are movable because of the tonal richness of the *raga* system. The frets are also convex in order to make it possible to render Indian ornamentations correctly. Except for the potential drone strings, none of these aspects of the *sitar* are found on the guitar because the musical needs of western music are quite different. They are also missing from the Japanese *shamisen* for other equally logical but different reasons. We hasten to add that this does not make one of these traditions better than the other. It is simply different.

The logical needs of Indian music create different forms. Since most classical music stays within one *raga* with shifts of tonal emphasis within it, the two themes in contrasting keys techniques so dear to eighteenth and nineteenth century western composers is of no particular value in an Indian context and, in truth, would be a compositional nuisance. By the same token, the western five line notation with all its extra marks is grossly inadequate for Indian classical music. Indian musicians long have understood that notation is only a memory aid, not a law. This is certainly true as well of many western performers for whom 'interpretation' of the printed page is the essence of their art. Despite the training of those closely allied to the so-called Gutenberg galaxy of print, both the more sensitive western musicians and most Asian performers have been able to hold to the important insight that music is meant to enter a man's heart and brain primarily through his ears rather than his eyes. One could carry on further with examples of the intimate relations of all the parts of Indian traditional classical music and one also could follow similar logical paths in musics from other parts of the world. However, the basic point has been made and we need to consider next some aspects of the second part of our ethnomusicological definition, the relations of a music to a specific culture or in comparison with other cultures.

A good starting point for a new topic is the power of music in a personal social setting. The school fight song in a sports contest or a

popular song that was in fashion at the time when one first fell in love are capable of evoking strong personal emotions throughout one's life from school days to the retirement home. Such memories usually involve as well the physical location and the cultural social setting of the original event. Thus a specific moment of personal or cultural history may be identified and retained through the oral tradition of music as strongly and sometimes more emotionally than it can through the very different kind of magic of the printed word.

The musical aspects of more general regional or national events have similar potentials for long range effects through recall or the reinforcement of repeated performances. It is this phenomenon which is one of the motivating factors in the creation of, for example, Protestant hymns, polemical songs, and singing commercials. Thus through a variety of musical experiences young American Christians might first learn and remember that Jesus loved them and later that God was a mighty fortress while in their college days they might know that we shall overcome as well as be aware of which cigarette tastes good like it should. However, since music is not an international language it is not possible for me to present similar examples from India. Such equally powerful messages might be totally lost on me as a non-carrier of Indian culture.

It is, of course, true that man, like the other brighter animals can be taught to respond 'correctly' to various previously foreign stimuli like music. In his natural habitat, however, his tastes may be very different. The late Richard Waterman, a noted ethnomusicologist, told of a field trip among the aboriginals of Australia in which he played tape recordings of various forms of western music in order to gauge the natives' reactions. Their responses to all examples were the same. Whether the music was Bach, Stravinsky, march music, or jazz the listeners remained impassive and either puzzled or bored. By accident Waterman happened to end his tape with an example recorded earlier from another tribe on the other coast of Australia. At that point there was sudden action and animated conversation for the aboriginals had never heard such 'weird' music. Poor Bach and the rest of the western greats did not even rate inclusion in the 'weird' category because, by aboriginal standards, they simply were noise, not music in the sense of their musical logic. This is not the result of their 'primitive' musical taste. It is merely the incompatibility of their great sensitivity to their own forms of sophisticated music with the requirements of similar sensitivities in western music.

The western music loving reader understandably may feel upset at this point for the objects of his personal adoration may seem to have been maligned. It is not so. Bach remains beautiful in his own cultural context whether someone from the outside likes him or not. The same is true of a Chinese opera aria. The object of our discussion so far has been primarily to clarify the meaning of the first lesson for the day: music is *not* an international language. That being so, we are led naturally to the second lesson which is that music is one of the more powerful and easily recognizable aspects of cultural identity.



Let us return to the aboriginal who considered Bach to be non-music. It is important to remember that his judgement was *not* primitive. It was totally accurate and sensitive in the terms of his own musical culture. Within that culture there will be, no doubt, pieces equally treasured by a cultural carrier though they may not make sense to someone who does not understand that particular musical language. If one wishes to study further in such a foreign musical tongue, it may be possible eventually to classify some pieces sociologically under the unfortunately foggy terms of folk songs, popular songs, and art music. Actually these terms usually do not exist as such in most world music cultures. Nevertheless one can apply them for the sake of comparative studies if the criteria used are primarily socio-historical.

For example, there may be songs known to many different tribes in Australia in different versions over several generations which, like the American 'Billy Boy', could be called folk songs. At the same time one can find a tune, set in the latest musical fad of Australia's Arnhemland and dealing with topical events, which can be called an indigenous popular song. In the transistor era one can, of course, add the ersatz international or regional popular sounds which play important roles in mass communications in terms of radio time allocations. Finally, there always seem to be in any culture some 'special' pieces which are usually performed against the highest standards of excellence held by informed native listeners. Such music may not be part of everyone's taste in that culture but sensitive culture carriers at least respect those who perform it and the listeners who judge it. One might call this art music, and apply the term just as well to a sacred song sung quietly in a secret place of the Australian desert as to three days of Wagnerian operatic inundations at the festival theatre in Bayreuth, Germany.

Art musics often maintain some form of conscious music theory. This is well-known in the case of Euro-American traditions where in recent decades there have been cases in which the theoretical explanation of certain pieces were more important than their sound. The theoretical underpinnings of art music in the Near East, India, and China are equally as detailed as that of the western classical tradition. The Arab *maqam* scales, the Indian *raga*, and the ancient tuning pipes of China are thus as familiar to professional music theorists as the writings of Pythagorus or Rameau. However, all these traditions fall within the Gutenberg galaxy of the printed word. When one moves on with one's ears and mind to the oral traditions of, for example, New Guinea or the gong ensembles of Borneo, the concept of theory seems very remote indeed. At first study one seems to find only mythology or 'superstition'. At closer examination, however, some tales are found to be efficient explanations of musical choices set in terms that can be understood and recalled by people of the tradition. How many musical or sociological theories of the west can be said to function that well?

One can retort that such an oral theory is not capable of being applied to extensive musical analysis. This is generally true. Nevertheless, it should be pointed out in addition that musics within the confines of their

native habitats often cannot be separated from their culture contexts for purely musical study. Indeed, in many cultures there is no word for music *per se* in their spoken languages. The word for music and for poetry or praying may be one, and music may only be defined by the name for the cultural event in which it is used. In such situations it may not be terribly vital to know the precise tunings of an instrument or the use of an anhemitonic pentatonic scale (the black notes on the piano).

Of course one can ask further whether all this native music is 'good' music? Perhaps the most efficient reply is, "Good for what?"

Curt Sachs, a famous early devotee to ethnomusicological studies, presented in the last chapter of his last book perhaps one of the most telling intellectual final gifts. The chapter in *The Wellsprings of Music* is entitled 'Progress?' In it he points out that by diligent training we can teach a university student to 'hear' and 'appreciate' a Beethoven symphony much as he learns to 'understand' other foreign languages. The 'uneducated' Eskimo, by contrast, will instantly understand which of some twenty words meaning snow was used as one of the few words appearing in a long, generally nonsense syllabled three-tone chant which occupied a time period nearly as long as a symphonic movement. Of equal or greater importance, he will understand and appreciate *why* that form of the word snow was chosen and thus will understand the very depth of the musical event far beyond the reach of most experts on sonata-allegro form in the west. As our music became more complicated, says Sachs, it became less directly meaningful to the carriers of the cultural context in which it was composed and, perhaps, less so to inheritors of that general tradition.

The reader may at this point despair for it would seem that, since music is not an international language, it really is a fruitless task for one to even attempt to cross the bridge into someone else's musical land. However, music's lack of a universal tongue does not mean that one cannot learn to converse in several dialects with success. One can never find the 'deepest point' which will involve all the childhood memories that return at each hearing within one's own musical world plus whatever Jungian archetypes may lurk about in the wings. Nonetheless one can understand enough of such distant musical languages that it is possible at least to respect the validity and reason for being of some musical tradition vastly different from anything he ever heard before. This is cultural understanding at its best. No one is required to 'like' every aspect of every part of the world even in the United Nations. What is mandatory in the educated man is a sense of awe and of respect for the multitudinous variety of manners in which world cultures handle their individual solutions to common human needs.





## Powada

Ashok Ranade

The *powada* of Maharashtra is not really a full-fledged form like certain other forms of folk music. It has its own musical characteristics; but its *raison d'être* is not exclusively musical. It resembles the ballad, and shares with it certain features like a strong narrative element, a certain length, a particular tradition of performance and vocal expression. Like other forms of folk music (for instance the *lavani*, *ovi*, *abhang* of Maharashtra) the *powada* has been studied and analysed quite extensively as a literary form. Its metrical peculiarities, its imagery, its social and political content and its other features have also been carefully noted, classified and interpreted.

But there is a yawning gap in these studies. The *powada* has not yet been examined as a form of musical expression. The *powada* is always sung and performed and the fact of its being written in so far as its essential nature is concerned happens to be a matter of secondary importance. That is why this lacuna in the study of this form does give cause for surprise. In fact, it was originally conceived and later preserved as a form to be sung and performed under certain conditions. Therefore, even its literary features were determined to a great extent by its performance-orientation. If we go by the metre employed in the *powada*, the temporal division or distribution does not give us an adequate idea of its actual nature. It is the intonation and the consequent contours in the pitch-line which must be taken into account. The *powada*, as a form of musical expression, calls for minute study if it is to be understood in its totality.

There is another reason which prompts us to urge an immediate musical examination of the *powada*. The *powada* belongs to the category of those fast-vanishing folk musical forms which have been quite well-established till now. Perhaps there are many factors contributing to its gradual disappearance. Every musical form fulfils certain musical needs and when these needs are satisfied to the point of satiety, the form becomes superfluous, falls into disuse and ultimately becomes extinct. This is especially so about musical forms that are functional in nature. Functional musical forms are always related to some extra-musical operation. When this operation or function starts moving out of the need-based structure of a society, the musical form connected with it has to opt for one of the following alternatives. It has either to enter into the art music of a culture or it has to discover a function similar to the one it originally had and then tag itself on to it. If it fails in these attempts, the form inevitably slides down the memory-scale of people. The *powada* is about to succumb to the third possibility and perhaps this is inevitable in the culture dynamic of Maharashtra. So why should one be nostalgic or romanticise about the *powada*? Why attempt an artificial stimulation of scholastic and musicological interest if the form itself is doomed to extinction by the inexorable laws of intra-cultural interaction of social forces? The answer to these problems is twofold. Firstly, the pro-*powada* argument is not a plea for the preservation or propagation of the *powada* as a musical form. What is suggested is an analysis of its musical aspect—a kind of study which has not been undertaken so far. Secondly, no musicology can hope to build up a sound conceptual system unless a musical analysis of folk forms is carried out. The interaction of art music and folk music ultimately determines their respective identities. Musical studies of art music tend to be thorough while folk music forms are comparatively speaking neglected. What our musicology desperately needs is a systematic attempt at a comprehensive rebuilding of its structure. One way to do this would be to have a closer look at our folk music forms.

There could be a third aspect of the problem, demanding a separate statement. Whenever a form establishes itself musically, it does so because it successfully answers certain needs which are important in the field of performance. How is the tempo and throw of words related to each other? Does variety in a tune bring about a dilution of effect and does a repetition of a tune facilitate a concentrated impact? Does limited range in the tune



or melody channelize the attention of the audience more successfully than a wider range does? These and other allied questions are answered in a particular manner and the resultant formula can be described as musical form. Under the circumstances, to allow musical form to disappear without it being studied and analysed, amounts to sanctioning an unnecessary interruption of tradition. At least in the field of art, traditions are a bulwark against fruitless duplication and against the disadvantages of working in isolation. On this account, too, the *powada* calls for a deeper study.

The *powada* belongs to the category of outdoor music. It is sung in the open; so the voice must necessarily be projected vigorously. Open-throated or constricted singing but always with a high basic pitch is the rule. The tune ranges mostly in the middle octave and occasionally touches the *Taar Shadja*. On the whole, the tune includes many places (repeatedly used) where the consonants or the words can be conveniently stressed. Throughout the performance voice-production is permeated with the fricative, voiceless H. In view of the greater amount of breath-energy involved in its production and the consequent increase in the 'carrying power' of the word permeated with it, it seems logical to have H-influenced phonation. The *powada* being, as has been pointed out earlier, a form of outdoor music, needs a longer reach. The unfailing and prominent use of H helps it in the desired communicative endeavour.

Certain other features in the tune of a *powada* are also the result of its outdoor nature. The tune has to be straight and simple. It does not permit decorative effects or tonal nuances. Firstly, the typical voice-production used in the *powada* cannot execute subtleties and ornate designs with ease. In addition, the *powada* seeks to 'hammer' a point. Content-wise, the praise, the glory that is sung of an individual or event demands the repetition of a name or a theme. The contours caused by an intricate tune tend to distract the attention of the audience from the main theme. Hence the simplicity of the tune.

In addition to this simplicity, the tune has to be more unified. This practically amounts to lack of variety. As the *powada* has to reach many, and that, too, quickly, it tends to prefer a particular or very few moulds of melodic structures and it goes on repeating them. The 'mould' is easily recognised and 'known' by audiences. The mould does not demand any independent attention or special focusing on itself every time it appears. Where a melody or a tune is 'used', it is better to have a stock tune appearing again and again. But what is noteworthy is that the tune does not become 'dead' despite the repetition. It goes on consistently and continuously and suggests a definite tonal pattern in which all the auditory contents automatically fall in place. The aural stimuli get neatly and quickly organized. What is significant is that when we read the text of a *powada*, we find the language and words grammatically and phonetically 'distorted', they seem to deviate from the norms of general linguistic usage. The tune is a guarantee that we do not feel disturbed by such elements when a *powada* is actually being sung. Then the linguistic deviation is successfully received as a phonetic rearrangement.

It is in this context that the use of short, four-beat *talas* like *Dhumali*, *Kerwa* for *powada*-singing becomes a really significant factor. Firstly, all configurations of even beats are easier to comprehend. Secondly, the tempo used for *powada*-singing is so fast that the intervening duration between two *Sams* is not long. This means that even if one whole *avartana* (complete *tala*-cycle) is left empty without singing, or even if one note is prolonged for the duration of a whole *avartana*, the performance does not suffer a break in music. The music-less spaces accentuate the musically-filled spaces. In fact, the literary and musical content of a filled musical space percolates better due to the unfilled musical spaces. Continuity and significant pauses are so perfectly and effectively balanced in *powada*-singing that even the practitioners of art music can follow the lead with advantage.

On account of this ever-going-forward tempo and refrain, the *powada*, as a musical form, remains singularly free from emotional associations. It is not bound down by those established conventions in art music which seek to build a relation of meaning and music. The *raga-rasa* relationship is not adhered to in the *powada*. The theme could be *Sawai Madhavrao Peshwa's* Holi festival, or the Battle of *Khanda* or the heroic death of *Tanaji*, — the *powada* assumes a neutral position in so far as the tune is concerned. Everywhere it is fast, equally monotonous, repetitive and bent on achieving a specific purpose with single-minded attention and economy of effort. This is the reason why its 'tunes' are not set in any of the *ragas*. A *powada* composer like *Shahir Haibati* shows close acquaintance with the musico-logical classification of Hindustani *ragas* and he mentions thirty-six *raginis*. *Honaji* composes *lavanis* to be sung in regular concerts and is indirectly responsible for the singing-girls substituting these for *khayals* and *tappas*, those established forms of the art music. But the *powada* never strays from its chosen track. A *raga* involves much processing and intricate pattern-weaving which, in turn, means a different kind of voice-production and the consequent denial of the open-air, out-door character of the form. With *raga*, the audience-level has to reach a certain degree of sophistication. This militates against the large number and the qualitative homogeneity of *powada* audiences. The *powada*, with its mass appeal, cannot afford this.

All these peculiarities are reflected in the accompaniment provided to *powada* singers. The *tuntune*, *daph*, *zanz* (in reality the *manjiri*) are, in fact, rhythm-instruments. The *daph* and the *zanz* are a-tonal. They do not have a definite pitch; they do not need any special kind of careful and sensitive tuning, and yet they are capable of reaching fair distances. They do so without dissipating the original sound-energy in any significant degree. The *tuntune*, which, on the face of it, appears to be a string-instrument is peculiarly uncomplicated. It provides a drone to and around the *tuntune*-player himself and what is even more important is that it creates rhythmic pulses that have a sharp, metallic quality. So, for all practical purposes, it is a rhythm instrument.

The vocal accompaniment is equally purposeful. These accompanists pick up the burden of the song with the main singer. The syllables *Ji Ji* are



used at convenient and required intervals to show a completion of a song-division. These syllables are sung at *Taar Shadja* by the accompanists. This use of the *Ji Ji* line gives a respite to the main singer, allows the earlier stanza to 'sink in' and yet does not relax the tension already reached. Even the listeners are repeatedly shocked into consciousness by the comparatively sudden use of high-pitched rendering. In addition to this, the repetition and rendering is of syllables which are in themselves meaningless. Thus they do not affect what has already been received as meaningful. They only deepen its significance. The lack of tonal colour and of variety of tune, increases in considerable measure the value of these *Ji Ji*'s.

It is also noteworthy that *powada*-singers perform in a standing position. A schematic presentation of voice-qualities in relation to the demands made on the voice by prose is possible. It will be: Conversation—natural voice; Discourse—official or processed voice; Speech—effective voice. We can have a parallel presentation in the case of a singing voice. It can be: Practice—private voice; Concert—efficient voice; Outdoors—effective voice. The standing-posture is obviously ideal for throwing the voice. Voice-culturists vouch for the scientific value of the standing-posture. Not too long ago some forms of art music (like the *thumri*) were also rendered in this position.

Any form with outdoor musical content can follow the *powada* with benefit in matters of rendering, voice-production and rhythmic organization. For a general audience listening to a story well-told, and briefly commented upon, nothing can be more entertaining than a *powada*. Musically it has answered certain problems with definiteness and efficiency. That through tradition it has been associated with a historical tale should not blind us to its specific musical merits. It is one of those forms which students of art music ought to study with greater attention, and more seriously.

## News and Notes

### *Purana Qila Theatre*

Early this year the National School of Drama presented a month-long festival of three historical spectacles — *Tughlaq*, *Andha Yug* and *Sultana Razia* — in Delhi's Purana Qila.

Most theatre-goers know of the colossal amount of money squandered in the sixties in the name of 'open-air' theatre. Some of the constructions built during those years are nothing more than uncovered platforms with the audience sitting in the open. The crowning monstrosity was the 'prestigious' but almost wholly impractical *Rangshala* with a seating capacity of more than ten thousand. At best, the theatre is suited for an acrobatic performance. Weather permitting, it is now being used as an open-air cinema by the Ministry of Information and Broadcasting.

Many theatre workers are familiar with the National School of Drama's intimate open-air theatre, *Meghdoot*; but only a few of them know that ever since his production in 1964 of Dharamvir Bharati's *Andha Yug* (amidst the ruins of Ferozeshah Kotla), Alkazi has been dreaming of a permanent theatre set right in the heart of these historical monuments. It is a spot where a large number of people can participate in an experience evoked by an atmosphere and locale that breathes the ethos and atmosphere of the period.

In one of his rambles, Alkazi came across Humayuni Darwaza—a gateway on the southern side in the Purana Qila complex. "I felt this could be a most stunning background for any epic play", says Alkazi, "and accordingly I started an exercise of designing a theatre. The site had some very interesting features; apart from having a declivity coming out in a sort of semi-circle, there is also this fantastic background of several storeys".

For eight years the bureaucracy tied up the dream in red-tape. But once the knots were broken, the project was completed in a matter of five weeks at a cost of Rs. 25,000/-—thanks to Alkazi's imagination and the hard work put in by the students of the school.

Purana Qila Theatre has turned out to be a rare aesthetic creation in theatre architecture; it is also an engineering feat. Though one is not able to see it now, there was a steep slope coming down to the gateway which is below the second storey archway of the Humayuni Darwaza. Some of the levels have been built over stilts as tall as thirty feet. The auditorium, built entirely with the rubble from the grounds of Purana Qila, was originally a steady slope which has now been shaped into tiers that follow the old steps leading into a gateway which opens on to the moat. The seating capacity is about five hundred and another hundred can be accommodated. This happened after the third day of the festival when they faced an unprecedented demand for seats.



The stage itself is enormous with as many as ten acting areas at different heights. The ground level is connected to the archway by a series of steps broken into a number of platforms which can be used as acting areas.

To light a stage of such dimensions is not easy. The main lights have been mounted on two towers. Considering the dimensions, the ideal would have been at least four towers but as Alkazi said to me. "Because of the cost and the power shortage, we are restricting ourselves to only 16 kw"

The battered ramparts and the ravaged Humayuni Darwaza provide a breath-taking background that makes this Theatre far more interesting than the Caracalla in Rome or Balbeck in Lebanon which have really become more of tourist attractions than alive theatres.

Purana Qila Theatre has proved beyond doubt that it is feasible to build against these kinds of environments theatres that make the monuments come alive. But after watching the three plays one cannot help but feel that perhaps such theatres can only be put to a restricted use—till such time as Alkazi or some other director proves it otherwise.

—ROMESH CHANDER

### Conductor Karl Böhm at 80

(Karl Böhm is a member of the Board of Advisers  
of the National Centre for the Performing Arts.)

Karl Böhm has written nothing but a sober volume of memoirs. There is no Karl Böhm style as there is a Toscanini, Furtwängler or Karajan style. Böhm is no showman spouting theories of conducting. His technique is practical, almost that of a band-leader. Indeed, if the term band-leader did not have such a pejorative ring to it, this would be a perfect description of Karl Böhm. Böhm can conduct everything and is an undisputed master of Mozart, Strauss, Beethoven and Brahms.

Böhm's triumph as conductor of Alban Berg's *Wozzeck* at the Met and in Salzburg was more surprising. The fact that he did not turn to modern music until in his sixties is typical of his career. He did not become a top Bayreuth conductor until he was older.

And the older he grew, the better, more fiery and more youthful he became. His final performance in Bayreuth—the unforgettable production of *Tristan* in 1971—would not have been rendered with such glowing passion in his younger days when his style was colder.

Karl Böhm's rise to the top began in 1934. He conducted the premiers of two Richard Strauss operas *Die schweigsame Frau* and *Daphne* at Dresden Opera House. Böhm and Strauss were life-long friends. He made a convincing appeal on behalf of *Frau ohne Schatten* only recently at the Salzburg Festival.

Böhm was born in Graz eighty years ago on 28 August 1894. His father, a lawyer who loved music, wanted his son to enter a secure profession and he did indeed become a doctor of laws shortly after the First World War.

But during his studies he also learned the art of conducting at Graz Theatre. Bruno Walter initiated him into the more sublime tricks of the trade in Munich and his later career took him to Darmstadt, Hamburg and Dresden.

He became director of opera in Vienna in 1942 and was re-appointed to this post when the bombed State Opera was officially reopened in 1955. A few months later he resigned and caused a violent stir in the press.

He was already so much in demand throughout the world that he did not want to tie himself down to any one opera house. The great festivals, the New York Met and the Milan Scala interested him more, and his incredible vitality helped him to conquer all the strain of his travels.

Böhm has bid farewell to Bayreuth but there is one composer to whom he will never bid farewell—Mozart, his idol. He rediscovered the works of the young Mozart as masterpieces.

Böhm clothes this ingenious music in simplicity. Under his baton even such difficult compositions as *Tristan* and *Wozzeck* sound simple, understandable and routine. That reveals the quality of a perfect conductor.

—KURT HONOLKA

(Courtesy: *The German Tribune*, Hamburg)

### The National Film Awards

The local film industry has always bristled at attempts to make a distinction between 'commercial' cinema and the 'other' cinema. The distinction is false and arbitrary, it is argued; there is good cinema and bad cinema, but there is no valid way to distinguish 'commercial' films from films assigned to some vaguely defined opposite category. The argument has force but more with regard to countries other than India. Even so, the stance was hurriedly abandoned the moment the results of the National Film Awards were announced this year. Various shades of supporters of the entrenched film industry as well as some of its representatives raised a hue and cry and accused the National Awards Jury of being biased against commercial films and of favouring 'art' films, FFC films or whatever else that they called off-beat films. The chorus of protest was revealing. So, a distinction does exist after all between the products of the organised film industry and the stray works of those who operate on its fringes.





P. J. Antony as the Oracle in *Nirmalyam*

It's true that three films sponsored by the Film Finance Corporation (*Garm Hava*, *Duvidha*, *27 Down*) featured prominently in the list of awards. But *Nirmalyam*, *Kaadu*, *Ashani Sanket*, among other award-winners, had nothing to do with the FFC. Besides, the critics of the awards didn't cite any individual films as really undeserving of the Jury's approval. Their agitation seemed to stem from the fact that the Jury had obviously applied standards to which the normal run of big-budget glossies could not hope to measure up.

The controversy triggered by this year's selections strengthens one impression—the commercially organised film industry, united in its adherence to a certain range of beliefs, approaches, motivations concerning film making,

considers film makers who do not share those beliefs, approaches, motivations, as 'outsiders' rather than a part of itself. There can be no other explanation for the refusal of the industry's spokesmen to applaud the honours received by, say, *Garm Hava* and *Kaadu*, both of which have proved to be acceptable at the popular level.

The scheme of National Film Awards was launched over two decades ago with the object of promoting good cinema. If censorship is a sort of stick, the National Awards are the carrot to attract film makers towards artistic integrity. The carrots have been consumed year after year for twenty years and yet, as hardly any objective observer will deny, the standard of the average Indian film has been progressively deteriorating. Today, the Indian film is a dismal spectacle and a source of much concern. And it is about time that the question was seriously considered whether the scheme of awards should be allowed to continue as a more or less meaningless annual ritual or whether something should be done to bridge the widening gap between the awards scheme and its objectives. What the National Jury did this year—boldly rejecting the meretricious and the mediocre and encouraging the honest, the experimental and the meaningfully communicative—is certainly a step towards bridging that gap. Perhaps no country's national awards can pragmatically adopt the harsher criteria of international film festivals. But they don't have to be so constituted, either, that films which will not hesitate to distort values and reality in order to court a mass audience are enabled easily to pick up honours too.

Most of the films that won the major awards this year share at least one characteristic—the content has relevance to what the films has to say rather than to its prospects of popularity. Another shared feature is concern with one or another form of oppression. The Malayalam language *Nirmalyam*, director M. T. Vasudevan Nair's first feature and winner of the President's Gold Medal for the best film in the all-India category as well as the best actor award for P. J. Antony, takes a steely, unblinking look at the collapse of an old order. The setting is Kerala's countryside and the old order is reflected in the character of the village oracle (played with adroitly controlled energy by Antony) who doggedly, foolishly, pathetically continues to believe in the reality of a world where deities, sincerely worshipped, answer prayers and ascetics are entitled to respect and humbly offered means of subsistence. The oracle tries to shut his eyes to the fact that the old order is rapidly being replaced by a new one in which shopkeepers get a better deal than priests and schools promise a safer journey through life than scriptures. The oracle's final disillusionment is expressed in a shocking act of sacrilege, and it is a measure of the intensity imparted to the narrative by director Vasudevan Nair that the sacrilege looks as profoundly tragic as painfully inevitable.

In *Duvidha*, which won the award for "excellence in direction" and which together with director Mani Kaul's two earlier films (*Uski Roti*, *Ashad Ka Ek Din*) constitutes a distinguished trilogy, the film maker continues his contemplation of the Indian woman as an object of subtle oppression. This is oppression concealed by tradition in a way that the victim's chains are made to look like ornaments and their rattle to sound like music. Based on a Rajasthani



folk tale, in which supernatural elements are deployed to indicate subversive psychological insights, the film is about a newly-married woman left behind at home by a husband for whom commercial interests take precedence over physical and emotional needs. During the husband's absence, a very human and compassionate ghost takes his place. Eventually, when the husband returns, it is the return of tragedy in the woman's life. Austere, untouched by the purpose-defeating elements of conventional story-telling, the film aims at, and for the most part achieves, the kind of simplicity which helps to dispel the mists swirling between man and his life.

Girish Karnad's *Kaadu*, winner of three awards (the second best feature in the all-Indian category, the best actress award for Nandini, the best child actor award for G. N. Nataraj), is, on one level, about two neighbouring villages with a gleaming surface of tranquillity and justice. But, below the surface, hypocrisy, deceit, superstition and savagery are at work, and when the forces of darkness get out of control, the villages are overtaken by man-made disaster. On another level, the film has rather obvious, if a trifle too tangled, metaphoric references to the human condition. A certain starkness and robustness



A sequence from *Kaadu*

characterise the film, but one wishes the narrative were less cluttered to avoid the opaqueness which results when the trees won't let you see the forest.

The late Avtar Kaul's *27 Down* (alternatively titled as *The Benares Express* in its Locarno showing) is the first and last feature of a film maker whose strength, perhaps, was unusual sincerity and determination rather than spectacular talent. The film is about the traditional parental tyranny so familiar in Indian society. Adapted from a novel by Ramesh Bakshi, the film transposes the tyranny from its usual setting of a conservative joint family to a new milieu in which a 'modern' youth living independently in a city allows himself to be remote-controlled by his village-based father. The oppression involved, the film suggests, is a complex of psychological, physical, social conditions, and no less tragic for the victims' general attitude of submission. The film has a rather weak script, but the visuals are almost constantly engaging. Besides the award for the best Hindi film, the film received the best black-and-white photography award for A. K. Bir's remarkably candid and fluid camerawork.

Director M. S. Sathyu's *Garm Hava*, set in the immediately post-partition period, deals with the impact of political events on individual lives. The film attempts a study of a large, upper middle-class Muslim family unable to cope with the emerging socio-economic forces. The touchy subject of Hindu-Muslim relationship is sensitively handled, but the element of make-believe is visible in much of the film. And evidence of a sneaking nostalgia for a crumbling feudal life-style further dilutes the film's impact. Winner of the award for the best film on the theme of national integration as well as the award for best story, *Garm Hava*, for all its shortcomings, is still a very important film judged against the background of the Hindi cinema.

—BIKRAM SINGH

#### *IMDT Seminar on Cultural Behaviour of Youth (Asia)*

A Working Seminar was organised from September 23 to 27 by the International Institute for Music, Dance and Theatre in the Audio-visual Media (IMDT), Vienna in co-operation with the Institute of Cultural Relations and Development Studies, New Delhi. The basic document under consideration was *New Patterns of Musical Behaviour* edited by Irmgard Bontinck. The Seminar discussed the effects of industrialisation and urbanisation on the development of musical taste, the role of the mass media in the reshaping of the aesthetic needs of youth and new types of activities in creative and performing arts. The participants from India included Shri P. L. Deshpande, Vice-Chairman, Sangeet Natak Akademi, Dr. Prem Kirpal, President, Institute of Cultural Relations and Development Studies, New Delhi, Shri J. M. Ojha, Director, Behavioural Sciences Centre, Delhi, and Prof. Manas Raychaudhuri, Lecturer, Rabindra Bharati University, Calcutta.



Theater II in der Aula der Kantonsschule  
Rämibühl 25. bis 27. September 20.30 Uhr  
Mumbai marathi sahitya sangh, Indien  
zeigt: Der Kaukasische Kreidekreis

von Bertold Brecht

Regie: Vijaya Mehta, Indien

Fritz Bennewitz, DDR

Musik: Bhaskar Chandavarkar

Indische Bearbeitung: Chim Tryam Khanolkar

Karten zu Fr. 10.—. Ermässigte zu Fr. 6.—.

Vorverkauf bei Kuoni Bahnhofplatz, Pianohaus Jecklin,  
Jelmoli Kundendienst

Theater II im Schützenhaus Albisgütli

The Performance Group New York

The Tooth of Crime by Sam Shepard

Inszenierung: Richard Schechner

Freitag. 27. Sept. bis Dienstag, 1. Okt., 20.30 Uhr

«Obie»-Preis für beste

Off-Broadway-Inszenierung 1973

Karten zu Fr. 10.—. Ermässigte zu Fr. 6.—.

Vorverkauf bei Kuoni Bahnhofplatz, Pianohaus Jecklin,  
Jelmoli Kundendienst

## Ajab Nyaya Vartulacha in Europe

A Marathi adaptation of Brecht's *The Caucasian Chalk Circle* by Chintaman Tryambak Khanolkar was produced in Bombay by the Mumbai Marathi Sahitya Sangh in November 1973. Fritz Bennewitz and I were co-directors; Bhaskar Chandavarkar provided the musical score. We were invited to the Berlin Festival by the government of the German Democratic Republic as part of a programme of Cultural Exchange.

We were forty in all. Our first show in Zurich I regarded as a preview and it had me apprehensive. What would these audiences make of our performance denuded of the expressive power of Khanolkar's poetic script? But the response was electrifying. Theatre enthusiasts came to tell us that we had helped to rid them of Brecht-weariness. They said they liked the strange and unspoilt beauty of our performance, its directness and lack of sophistication.

In the eight performances that followed (at Berlin, Gere, Brandenburg, Arfurt, Potsdam and Weimar), the curtain came down and we had the same breath-taking applause. All the theatres (each accommodating an audience of about five hundred) were acoustically perfect. There was such a lot of wing space, and the black velvet absorbed sound and light so beautifully that the compositions took on a lovely and delicate shape.

It did not take us long to get used to stage conditions there, even to operating lights that were computerized or on one occasion seating the musicians on the stage itself when we found the orchestra pit too low and feared that the notes might escape into the depths below.

At Weimar, which is the heart of their cultural life, the audiences cheered every scene and movement. After repeated curtain calls, there was a spontaneous turning to rhythm which overflowed into dance. They said they were struck by the fluid grace of the Indian actors. They even thought that each one of our expressive gestures was a conscious *mudra*. The rapport with us was immediate. They were aghast that we had no actors' unions, or work regulations, that I did as many as five shows during a week-end. They could not believe that the members of the troupe were non-professionals. We, in turn, were impressed by their remarkable organization and the attention they paid to minute details, like the incense holder, the *kandil* lamp, the *bidi* used during the performance—simply as one of the many safety measures they took to avert a fire.

The heart-warming enthusiasm of the audiences and theatre people I attribute to what was human, elemental yet gentle in our interpretation of Brecht—something which they said had got lost somewhere on the way in their own theatre and more so in their lives. And to prove what the performance meant to them they invited the troupe to their Festival next year and me to direct a play for them in 1976.

—VIJAYA MEHTA





Shri Jaya Chamaraja Wadiyar, a member of the Board of Advisers of the National Centre for the Performing Arts, died at Bangalore on September 23. For many years he was the Chairman of the Sangeet Natak Akademi. A distinguished scholar and composer, he has written and lectured widely, particularly on the subject of aesthetics. His compositions feature regularly in the programmes of such well-known singers as Semmangudi Srinivasa Iyer and M. S. Subbulakshmi.

Guru Dandayudhapani Pillai, who died on October 12, 1974, belonged to the family of Karaikkal Natesa Pillai, a reputed musician. He was also related to Tiruvavaduturai Rajaratnam Pillai, the noted Naadaswaram Vidwan. He joined Kalakshetra in the forties and there came in close contact with the great Bharata Natyam guru and architect of the Pandanallur style, the late Meenakshisundaram Pillai, and his son-in-law Chokkalingam Pillai. Dandayudhapani Pillai's musicianship gave his dance compositions a special quality. He has choreographed the *Kuravanji* dance-dramas. Later on, when he started his own school he gathered round him a large number of pupils.

Death seems to have been particularly cruel to South India and deprived us of another great Vidwan, Chembai Vaidyanatha Bhagavathar, even while this journal is going to press. For some sixty years he was a popular figure on the concert platform with his magnificent voice, his tight control over *laya* and his total fidelity to what he held dear in the Karnatic *sampradaya*. Many young musicians and accompanists owe a debt of gratitude to him for the encouragement that he showed to them throughout his long career. With his death, still another link has been broken with the vanishing group of old masters.

Krishnarao Phulambrikar, known to lovers of music as 'Master Krishnarao', died in Poona on October 20, 1974. He was a noted exponent of the Gwalior *gharana* and a disciple of the late Bhaskarbuwa Bakhle. Master Krishnarao composed some of the most popular music of the Marathi stage. He was also music director for Prabhat's film classics, such as *Amar Jyoti*, *Padosi* and *Aadmi*. The *Padma Bhushan* award was conferred on him in 1971 and last year he was made Fellow of the Sangeet Natak Akademi.

INDIAN MUSIC by Peggy Holroyde, George Allen & Unwin Ltd., London, 1972, £5.25 (*In English*).

A new book on Indian music with an attractive get-up has just been published by George Allen and Unwin Ltd. The author is Peggy Holroyde, who has travelled 80,000 miles across India on a musical pilgrimage and has certainly imbibed a commendable measure of "familiarity with the sources of inspiration in religion and civilisation of our country". The book is indeed a remarkable attempt, written as it is by an Englishwoman who describes India as "that tragic but heart-warming land which I now regard as a permanent home in the mind".

In the Prelude, Peggy Holroyde frankly states that in the book she has sought to express the inner spirit of Indian music with her own limited vision and as a non-playing lover of music. This desire to initiate the ordinary "western concert-goer" into the intricacies and the deeper meaning of the Fine Arts of India needs to be welcomed and admired.

Peggy Holroyde studied philosophy with Dr. Radhakrishnan and she firmly believes that no one who wishes to go beyond a cursory understanding of Indian music can readily ignore the gigantic matrix of Hindu thought in which framework all the Indian arts not only did flourish but still do. That partly explains why almost every page of the book has a generalisation based on Hindu philosophy.

The author has a flowing, yet lucid style and reveals a keen understanding of a pragmatic approach to Indian music. She relies a great deal on quotations from the books of Indian musicologists and she has wisely avoided the problem of controversies, specially those in the technical field of our music. This is understandable as, in the last analysis, the book is a form of self-expression; it has arisen out of her personal intuition and in the Prelude she makes this point quite clear.

But it must be stated that there are certain aspects of the book which could have been better treated. In the first place, while one appreciates and even admires her understanding of Indian philosophy, one cannot help feeling that her enthusiasm has sometimes diverted her from the main trend of thought and from the actual subject under discussion. There are many instances when the reader is left somewhat confused by what she has to say.

Personal emotions, assessments and impulses have been allowed full play in the book. As a result, the sections devised by the author appear somewhat disjointed. A proper sequence or, at least, an understandable chain of a 'step by step' treatment of different aspects of Indian music could



have been undertaken. That would have made it easier for the reader to adhere to the main course of the argument and prevented him from feeling lost at certain points in the book.

Peggy Holroyde states that she does not wish to get involved in the detailed technicalities of our music. She has managed to steer clear of such involvement in the major part of the book. But when she gets immersed in a discussion on "the grammar of the *raga*" and "Memoria Technica", I, for one, find myself face to face with a fairly complicated (lopsided?) treatment of certain theoretical aspects of Indian music.

But in spite of these reservations, we have here a non-Indian who has written in a very subjective fashion on one of our Fine Arts and with a feeling and insight which is rare. The publisher states that all through the book one is constantly aware of the author's love for India, its people and art forms. I would go a step further. I think the author reveals a surprising and praiseworthy grasp of both the theory and practice of Indian music. It is not only a love for India, but also a keen sense of appreciation, devotion and respect for the Indian people which runs as an undercurrent through the book. This book is a contribution to the cause of Indian music and it is specially so in the context of the growing interest evinced by young and ardent westerners in India and her music.

—ARVIND PARIKH

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UNDESIGNATED AND OTHER PLAYS by Kuldip Sondhi, Orient Longmans Ltd., Bombay, 1972, Rs. 8.00 (*In English*).

Kuldip Sondhi writes interestingly and with a very fine sense of controlled dramatic tension. When he is at his best, he imbues his work with the highly tensile quality of an alloy that surprises not so much because it is being stretched taut but because it does not snap.

This collection comprises two short stage plays and three radio plays, all set in Kenya. The themes range from racial rivalry and mistrust to superstition, from personal fears and doubts to the atonement by an individual for the misdeeds—imagined or real—of an entire ethnic group. *Undesignated* is perhaps the best of these plays though it is marred somewhat by the reverential charge of 'artistic genius' that is laid against one of the characters. This play serves to set Solomon Ohanga apart from the other executives of the transport company who are all embroiled—against the background of racial tension and supercession—in the battle for succession to the General Managership. Ohanga is himself in the running and a hotly-touted candidate. The play is well-knit and the denouement extremely well done; however, it would have been better if Ohanga had been depicted as a man with an artistic temperament and not as an artistic genius incognito.

Kuldip Sondhi is fully alive to the uses of sound and effects he incorporates into his radio plays unerringly evoke the scenes, settings and distances through which his characters move. Very few Indian playwrights have written specifically for the radio and fewer still have adapted their work for broadcast. The excellence of the three radio plays in this collection is a tribute as much to the abilities of Kuldip Sondhi as to the encouragement and scope provided by the BBC in contradistinction to our own AIR. The first of these radio plays, titled *Devil in the Mixer*, is concerned with a mischievous spirit that is supposed to be jamming up the concrete-mixer; the theme has humorous possibilities and the author does not overlook them. At the same time he recreates admirably the atmosphere that prevails at a construction site. It will be a long time before I forget the Swahili chant "Sema Harambee! Harambee . . . hail!"

The second radio play, *Sunil's Dilemma*, deals with an Indian garage-owner suddenly imposed upon by two strange Africans who he dare not displease. The situation is gripping throughout but, unfortunately, the conclusion is a little bathetic:

SUNIL: She's asleep . . . My God, I'll never know anything . . . What am I to do?

(Sound of howling wind with hint of derisive laughter.)

In much the same way, the play *With Strings* is flawed by a contrived ending. The third radio play, *A Mile to Go*, covers the last lap in the retreat of an old merchant of Indian origin fleeing from the trials and tribulations of contemporary East Africa. Though this play, too, is set in Kenya, the shade of neighbouring Uganda's Big Daddy, 'Dada' Idi Amin, is bound to glower in the mind's eye and this adds to the immediacy and relevance of the theme.

The cover of this neat and compact paperback has been designed by Rosalba Tana; it is appropriate, evocative and pleasing to the eye.

—PARTAP SHARMA

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SANGEETACHE MANASA-SHAstra by Dr. Shymala Vanarase, Shri Lekhan Wahan Bhandar, Poona, 1973, Rs. 6.00 (*In Marathi*).

Experimental Psychology as a scientific discipline is fairly well established in many colleges and universities in our country. A growing number of colleges and universities offer one or more courses—introductory or advanced—in Music. However, the two disciplines, Psychology and Music, are generally studied independent of each other. The gulf which separates the two disciplines is based on certain misconceptions prevalent among students of both the subjects. The experimental psychologist, with his scientific and theoretical interests, has developed a language which seems alien to students of music trained in the traditional manner. Students of music often regard their discipline as an art which transcends the mundane methods of science.



Dr. Shymala Vanarase's small book on the psychology of music will go a long way towards bridging the communication gap between students of modern scientific psychology and students of music. Her book provides an excellent introduction to a field of study hitherto unexplored by Marathi writers on music as well as psychology. As one reads this book one realizes how a trained experimental psychologist can apply the knowledge of basic psychological processes of perception, motivation, learning to some of the age-old problems of Musicology.

In the very first chapter the writer examines the apparent conflict between art and science and highlights the need for adopting a scientific attitude when one is analysing and studying musical phenomena.

The eleven chapters which follow constitute the main body of this book. These chapters cover a large number of topics ranging from the psychophysics of music to aptitude testing. These chapters give a very succinct account of the psychology of music.

It is heartening to note that in her discussion of the studies conducted in the West the writer has borne in mind Indian customs and traditions in music. Students of Indian music will, therefore, find this book not only informative but also quite interesting.

In the last chapter the writer makes mention of a number of problems which fall within the purview of the science she has introduced to the reader. She emphasises the need for an inter-disciplinary approach to the problems of Musicology. Her book is an account of the manner in which a psychologist views musical phenomena. She has herself taken the first step in the direction of an inter-disciplinary approach. The reviewer hopes that this book will encourage other researchers to investigate the problems of Musicology from different angles.

A significant feature of this book is that it does not assume any thorough knowledge of experimental psychology on the part of the reader. The contents of the book can, therefore, be understood, digested and appreciated by students of music untrained in the field of modern scientific psychology.

The style adopted by the writer is clear, concise and free of unnecessary jargon. Of course, the use of technical terms is often inevitable; but the Marathi terminology used in this book is not at all difficult to understand.

The glossary appended at the end of the book makes it easier for the reader to understand the contents. The writer has included a fairly exhaustive bibliography at the end of the book and a serious student of the psychology of music is bound to benefit by a study of the original sources listed in it.

—K. M. PHADKE

THE ART OF TANTRA by Philip Rawson, Vikas Publishing House Pvt. Ltd., Delhi, 1973, Rs. 75.00 (*In English*).

The author very competently discusses the subject of Tantra and shows a degree of empathy in his understanding of the problem. Obviously he sets great store by Tantra and, at one point, he even says, "In comparison with its insights even the work of Cassirer, Husserl or Whitehead seem fragile indeed" (page 44). He similarly places Tantric understanding of sexuality above the Western approach to the subject. Surprisingly enough, the term 'libido' is used, but there is no direct mention of Freud; Jung is mentioned only in parenthesis (page 72) although there is mention of archetypes and symbols in dreams.

Every religion (indeed, every society) must find a way of dealing with human sexuality. The power of sex is far too explosive for it to be left untamed and for any natural, automatic control over it to emerge in due course. Nor is the emasculation of sex any solution to the problem for there is strength in sex. A minimum indulgence in sex is unavoidable if the human race is to continue. No religion argues in favour of human extinction, however miserable or painful, or illusory it might believe this life to be.

Brahmanic Hinduism is ascetic. The ascetic is extolled in India (page 13) and Rawson uses terms like 'energy hoarding' and 'sexual misers' to convey disapproval of the mode of dissipating the libido in normal sex. The Tantra view is refreshingly different. "In complete contrast to the strenuous 'No' that official Brahmin tradition said to the world, Tantra says an emphatic, if qualified, 'Yes!' It asserts that, instead of suppressing pleasure, vision and ecstasy, they should be cultivated and used" (page 10). Discussing the futile attempts of many authors to play down the sexual element in Tantra, Rawson frankly says, "In fact enjoyment (*bhoga*) is the essence of Tantra, ....." (page 27). And yet this is not simple carnal pleasure; nor is it the doctrine of a voluptuary. The elaborate and frankly erotic representation in Tantric and Hindu religious art have posed problems of interpretation. The representations are far too realistic to be classed as sublimated art. The view is advanced that since sexual happiness is the only bliss that mortals know intimately, any idea of divine ecstasy has to be based by analogy on sexual fulfilment. Tantra deliberately cultivates sexual pleasure as an approach to the divine. The notion of *sadhana* (devotion) is implied in the pursuit of sex. The present reviewer is inclined to agree with the author that Tantra was of lower-caste origin and was, in some sense, a revolt against the repressively sex-denying morality of the Brahmins. The Tantrics, as the author puts it, were considered outcasts, no matter what their origin. It is not clear, from Rawson's writing, why Tantra regards female sexuality as the prime element. Female sexuality is sterile without male sexuality, just as male is so without female. Why tilt the balance, then, in favour of the female? And nothing in Tantra is intelligible without the dominance of the female creative principle. These topics are, of course,



too large to be discussed here. The book raises many questions and the excellent illustrations supplement the text. The book is a good introduction to Tantra.

—DHIRENDRA NARAIN

GARBO by Mahesh Elkunchwar, Neelkanth Prakashan, Pune, 1973, Rs. 5.00 (In Marathi).

Mahesh Elkunchwar made his mark with the one-act plays he wrote some time ago. *Holi* gave an impetus to the intimate theatre movement. Following the pattern of his other one-acters, here he sought to explore the psychological background of violence. On the whole, his writing is a little verbose but what he has to say is so compelling that his expression inevitably takes a somewhat dense turn. One hopes that in due course this young playwright will be able to find a form suited to his own temper.

*Garbo* deals with the experience of a rapid loss of creative force and the frustration encountered in the search to recover it. A harmless animal charges madly when it is cornered; man caught in the vice of circumstances does exactly the same to preserve his own identity. Then his cruel mien appears both truncated and pathetic at one and the same time.

The three men in *Garbo* are more in the nature of human tendencies than actual individuals. The names Shrimant, Intuk (Intellectual) and Pansy define their personalities. Each of the three has lost his creative power and is suffering from a kind of psychological and spiritual menopause. All three have their hearts set on Garbo. In the very choice of her name the playwright suggests that she is an embodiment of the dreams of men. The tension one senses in the four characters is built round the distance separating Garbo as she is and the Garbo of their imagination. Even cynical Intuk becomes hopeful the minute he learns that Garbo is going to be a mother. Then there comes the moment when they learn that she is responsible for the murder of the living being within her. The despair which follows in the wake of this brief assurance of creative strength is even more horrifying than their former state. So when Garbo prepares to leave, they kill her, which in itself is only a nominal thing since she is already dead for them. The experience inherent in the play is unusual but the playwright's idiom, the over-compact and logical structure of the play seem to be at variance with its essential spirit. This explains why the play fails to convey what its author has to express.

But as one read *Garbo* one realised that today's plays are not mere dramatizations of a story of conflict. They formulate an experience and this is what leads one to look forward with expectation to the work of this young dramatist.

—P. B.

## Record Reviews

SIKHISM THROUGH THE SONGS OF THE GURUS. Hymns from the *Gurbani* rendered by Gurumull Singh Party, Picre Singh and Party, Kamala and Party, Ranjit Singh Johar and Tilli and Party.  
Polydor 2488138  
Polydor 2488139

SINGH BROTHERS (Vocal) *Ragarang*. Side A: Puria Dhanashri; Side B: Jaunpuri and *Pad* (Nanak).  
Polydor 2392818

GUNI GANDHARVA PANDIT LAXMANPRASAD JAIPURWALE (Vocal). Side A: *Raga* Gunkali-Jogiya and *Raga* Mishra Khamaj; Side B: *Raga* Kafi Malhar, *Raga* Sughrui Malhar and *Raga* Suha Malhar.  
HMV 6405601

The Guru Gobind Singh Foundation, through 'Polydor', has produced a recording of a feature programme, *Sikhism through the Songs of the Gurus*. The commentary is in English while the illustrations from the *Gurbani* are in the original.

The script of the programme is by Khushwant Singh and the narration is by Nirmala Matthan, Khushwant Singh himself and Virendra Luther. The programme is on four sides of two discs and portrays through the hymns of the Sikh scriptures the excellence of their practical and universal religion.

The second is a disc of classical vocal duets by the Singh Brothers, two musicians of the younger generation. Though they do not claim descent from any *gharana*, their rendering of classical music shows the influence of the late Amir Khan's style. These musicians are able to maintain a proper balance and absolute co-ordination while singing the *khayal* duets. The *khayals* are in the *ragas* Puria Dhanashri and Jaunpuri; and there is a short *pad* by Guru Nanak at the end. The tabla accompaniment is by D. K. Aitevadkar; Sultankhan accompanies the singers on the sarangi and Anant Bedekar on the harmonium.

Pandit Laxmanprasad Jaipurwale is a learned musician and, as can be expected of him, has chosen a number of rare compositions for this disc. Panditji's Gunkali-Jogiya is a well balanced combination of Gunkali and Jogiya. The rendering of Mishra Khamaj could have been more delightful, though Panditji has presented it in the *Ragamala* style to make it more colourful. The presentation of varieties of the *raga* Malhar, namely Kafi Malhar, Sughrui Malhar and Suha Malhar, will be of great interest to students of music. Though the rendering is not thought-provoking, one gets an opportunity to hear a specific way of presenting compositions in combined *ragas*. All the compositions have good *sahitya*.

—M. S. KANETKAR



# NATIONAL CENTRE FOR THE PERFORMING ARTS

Nariman Point, Bombay 400 021

## SOME FORTHCOMING EVENTS

| Programme  | Venue                            | Date                    |
|--|----------------------------------|-------------------------|
| 1. Carl Pini Quartet from Australia  | NCPA Auditorium<br>Nariman Point | 24/1/75                 |
| 2. Marionetteatern, Stockholm  | Patkar Hall                      | 30/1/75<br>&<br>31/1/75 |
| 3. Classical Vocal Music by Padma Joglekar — Kesarbai Kerkar scholar               | NCPA Auditorium<br>Nariman Point | February<br>2nd week    |
| 4. Dance Forum from Cologne  | Homi Bhabha Auditorium           | 4/3/75                  |
| 5. Jacques Douai (French Folk Songs)   | NCPA Auditorium<br>Nariman Point | 6/3/75                  |
| 6. Ravel Centenary Programme   | NCPA Auditorium<br>Nariman Point | 7/3/75                  |
| 7. BICENTENARY OF MUTHU-SWAMY DIKSHITAR  |                                  | 15/3/75 to<br>24/3/75   |
| NCPA Programmes :  |                                  |                         |
| Bharata Natyam programme based on compositions by Dikshitar. (Vyjayanthimala Bali) | Homi Bhabha Auditorium           | 18/3/75                 |
| T. Brinda (Dikshitar <i>Kritis</i> in Hindustani Ragas)                            | NCPA Auditorium<br>Nariman Point | 20/3/75                 |
| D. K. Pattammal  | NCPA Auditorium<br>Nariman Point | 22/3/75                 |

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